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A REPORT OF THE INVITATIONAL CONFERENCE ON IMPLEMENTING CAREER DEVELOPMENT THEORY, AND RESEARCH THROUGH THE CURRICULUM.
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A FINAL REPORT HAS BEEN PREPARED ON A CONFERENCE CONCERNING VOCATIONAL DEVELOPMENT AND CAREER PLANNING. FOLLOWING A PLANNING SESSION, THOSE INDIVIDUALS WHO HAD BEEN IDENTIFIED AS PROMINENT INNOVATORS IN SELECTED TOPIC AREAS WERE INVITED TO PARTICIPATE IN THE CONFERENCE. PARTICIPANTS PREPARED PAPERS FOR DISTRIBUTION PRIOR TO THE CONFERENCE AND MADE PRESENTATIONS AT THE CONFERENCE. FOLLOWING EACH PRESENTATION, THE ATTENDEES BROKE INTO SMALL DISCUSSION GROUPS WHICH HAD THE DEFINITIVE ASSIGNMENT OF DEVELOPING IMPLEMENTING PROCEDURES. THE REPORT INCLUDED REPRODUCTIONS OF THE PAPERS PRESENTED AND THE FOLLOWING SUMMARIES--(1) CURRICULAR IMPLICATIONS FOR CAREER DEVELOPMENT, (2) IMPLICATIONS FOR COUNSELOR EDUCATION, (3) IMPLICATIONS FOR RESEARCH, AND (4) SUMMARY OF THE DISCUSSION SESSIONS. (JC)

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FINAL REPORT

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Conference on Implementing Career Development Theory and Research Through the Curriculum

August 1966

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A REPORT OF THE

INVITATIONAL CONFERENCE ON IMPLEMENTING CAREER DEVELOPMENT THEORY AND RESEARCH THROUGH THE CURRICULUM

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INTRODUCTION

Background and Rationale

The conceptualization of vocational choice as a process of on-going development has been given increasing attention in the literature during the past 15 years. Yet, while vocational development and career planning are valid and inescapable concerns of education, contemporary principles and concepts of vocational guidance have not been effectively incorporated within the school curriculum. This neglect has been recognized by the National Manpower Council (*Education and Manpower*) in various statements. Thus:

> ...some attempt has been made in the past ten years to bring vocational guidance services down to the level of the classorom through courses in occupational information, community civics, group guidance, student services orientation and psychology....Still, not counting the high enrollment in community civics, long a required course in most junior high schools, much remains to be done in bringing guidance, and particualrly occupational information, into the classroom in an organized and systematic way. (p. 215).

and:

> The guidance profession should study and evaluate methods of presenting occupational information more effectively in classroom situations. (p. 216)

The intimate relationship between education and occupation has been stressed repeatedly by the Educational Policies Commission (*Manpower and Education*), the National Manpower Commission (*A Policy for Skilled Manpower*), American Council on Education (*Man, Education and Work*), National Vocational Guidance Association (*Man in A World At Work*), the President's Panel on Vocational Education, and by many authorities in the field, notably Donald Super, Eli Ginzberg, Henry Borow, David Tiedeman, and Edward Roeber.

There are a number of reasons why schools have not engaged more successfully in the process of helping youth find ways of investing their lives meaningfully through work. A principal reason stems from the fact that educational methods in this area have not kept pace with growing body of theoretical knowledge and research evidence related to vocational development. Nor have the schools kept sufficiently abreast of economic or technological changes occuring in the world of work. The implications for curriculum of the growing body of literature which constitutes a subscience of occupational behavior, as well as the effect of technological and societal change on human work, remains to be studied. There is need to consider the implications of these developments with the view to finding new directions for guidance procedures with in the classroom.

A growing interest in career development and its potential contribution to the school program is very much in evidence today. Officers of the National Vocational Guidance Association are being asked increasingly to speak on the subject to school personnel--i.e., school counselors, vocational educators, and curriculum specialists. Programs devoted to this topic at the December 1964, American Vocational Association convention in Minneapolis drew an unusually heavy attendance. This interest has been reflected also in recent vocational education publications. Career development is given prominent attention in a U.S. Office of Education publication entitled, A Study of Curriculum Development in the High School Cooperative Program, Vocational Disivison Bulletin No. 281. A series of articles related to the subject appeared in Business Education Forum, April, 1962. It is likely that much of this interest has been stimulated by recent Federal legislation aimed at improving the economic welfare of youth through programs of vocational counseling, training and placement.

Increased concern about problems of occupational planning and adjustment on the part of government and educators makes especially timely an examination of the potential contributions which career development concepts may hold for the school curriculum. A major problem seems to be the lack of any concerted or systematic efforts to translate theory and research to practice. This proposal suggests a necessary first step to stimulate efforts in this direction.

Developments

In January, 1965, the National Vocational Guidance Association submitted a proposal to the U.S. Commissioner of Education setting forth our desire to hold a Conference to explore means and methods for moving Current Trends in Career Development Theory and Research into Educational Curriculum throuht and planning.

The proposal was revised and re-submitted in September 1965. Under date of November 24, 1965 Dr. David Tiedeman, president of the Association was notified the project had been approved subject to final negotiation of a mutually acceptable contract or grant instrument.

The Association moved ahead by inviting key leaders in various other groups to serve on the planning committee. These individuals or their representatives met with the principal designates of NVGA on January 11th in Columbus, Ohio to finalize the plans for the Conference. In the interum tentative arrangements were made with the Airlie Foundation for use of their conference facilities.

Following the Columbus planning session those who had been identified as being prominent innovators in the selected topic areas were contacted relative to their participation by preparing a paper for reproduction and distribution prior to the Conference and then making a presentation at the Conference. The quality of the papers is highly evident in that there have been many requests for their publication in various professional journals. Concurrently certain germaine papers deemed important background for the participants were identified and permission to reprint them was obtained.

The eight background papers and three of the substantive papers were reproduced and mailed to the participants prior to the Conferance. Dr. Foshay gave his paper at the opening session as had been planned. Dr. Borow had copies of his paper available for distribution at the time people arrived at Airlie House. Dr. Wilensky's paper was reproduced during the Conference. Each of the papers is incorporated as a part of this report.

Following each presentation a participant reacted to the paper and presentation. Dr. Samler prepared a paper on his reaction which has been incorporated in this report. In turn the entire group broke into six small discussion groups which had the definitive assignment of developing implementing procedures.

During the last morning, Dr. Bob G. Woods, Dr. Carl McDaniels, and Dr. David Tiedeman summarized. They covered Implications for Curriculum, Implications for Counselor Education, and Implications for Research respectively. Subsequently they prepared and submitted their papers which are included with this report.

Following the Conference Dr. Douglas Sjogren took the discussion group recorder reports and summarized them. This is the last paper in the report.

Objectives

1. To expand the dialogue between occupational theorists and researchers, counselors, vocational educators, and curriculum specialists by mobilizing and sharing knowledge in career guidance, behavioral science, labor market and manpower information, and curriculum development.
2. To identify concepts of occupational behavior and work in a changing

society which should be incorporated into curricular practice.

3. To conceptualize vocational readiness and the related structure of motives in youth at different age-grade levels.
4. To identify areas of research which need attention and demonstration projects by which new approaches to vocational guidance might be systematically explored within the curriculum setting.
5. To identify vocational topics and types of competencies which might augment and strengthen counselor education programs.
6. To disseminate the hoped-for insights and conclusions of the proposed conference by making the prodeedings widely available to counselors and counselor educators, vocational psychologists, vocational educators, and curriculum specialists.

Results:

1. It was evident that those from each discipline had rather common perceptions within their own group but that these perceptions were quite divergent between the various disciplines represented in the conference. There is need to improve our inter-disciplinary communications particularly as relates to current career development theory and research.
2. There seemed to be general agreement that the meaning of work is deeply interwoven with our value system. As productivity in our affluent society is increasingly achieved by machine performance, man attains a sense of satisfaction more through service to his fellow man. It is imperative that our educational system bring such changes into the awareness of youth.
3. Dr. Tiedeman prepared a structual conceptualization relating age, developmental stages, and counselor functions in a most definitive way.

4. It became evident we need much exploration of various curricular patterns to ascertain its strengths and weaknesses of approaches to vocational guidance. Why are some group programs effective in one setting and relatively ineffective in another?

5. A number of the counselor educators expressed concern for the development of more efficient ways of training counselors-to-be to perceive the worker attitudes, his preceptions of his job and its meaning to his way of life. Are these particular methods and techniques whereby the transition from one occupation to another is accomplished with less loss of prestige and sense of worthwhileness? Are there certain identities which facilitate adaptative behavior in periods of exceedingly rapid social-economic change?

6. Plans have been adopted to publish the proceedings of the Conference for wide distribution to counselors, counselor educators, vocational psychologists, vocational educators, and curriculum specialists.

These priviledged to participate felt it was an exceedingly stimulating and beneficial conference. Many ideas and insights were gained and several have reported instances in which materials have been utilized in working with other groups. There have been numerous requests for copies of the papers.

Kenneth B. Ashcraft
Conference Administrator

STRATEGIES FOR CURRICULUM CHANGE

Arthur W. Foshay
Teachers College, Columbia University

During the past ten to fifteen years it has become apparent to those who would improve the curriculum that they must reconceive the components of an educational system in order that changes may endure. The terms of the topic I have been requested to speak about here are interesting, partly because they would not have appeared in a similar request a generation ago. Until recently, we have thought of curriculum development as a process intended to improve learning. Only recently have we begun to face the matter of strategy squarely. The problem of curriculum design--that is, the question of how the curriculum as a whole is to function for any one student and for the students as a whole - continues to defy adequate formulation. Maybe the concept "strategy" will help.

We deal here with two terms that are highly contemporary: "change" and "strategy." What shall be the strategy for curriculum change?

I shall adopt the position here that to change the curriculum is to change the school system, taken as a whole, and that any consideration of strategies for curriculum change must be based on an analysis of the nature of the system to be changed. If we are to develop an orderly approach to change in a school system, we must first consider how the school system itself may be conceived of.

Several metaphors have been available to us, and we have used them from time to time. Let me state them as questions:

--Is a school system a logically ordered array of processes, like a factory?

--Is a school system a political unit, responsive to its environment like a city government?

--Is a school system a highly organized, single purpose unit, like a surgical team?

--Is a school system an organism, with self-maintaining subsystems and the power to repair itself, like an animal?

--Is a school system like a physical system, which is organized mainly to attain and maintain a steady state?

All metaphors are in some sense misleading, of course. Perhaps it is because of their misleading character that these metaphors have been the subject of passionate, doctrinaire utterances from time to time. To think of a school system as if it were like a factory with an input, a processing arrangement, and an output, invites the schoolman to join Callahan's "cult of efficiency." There are places in the United States where the school system is, indeed, like a small governmental unit, with patronage, selective granting of privilege, the response to immediate crises, and the attempt to appear absolutely fair in the sense that everyone is treated as if he were the same person - all of which characterizes city governments. To organize a school like an infantry team presumes that there is an enemy. Since the real enemy of the educator is ignorance, which is impalpable, too often the "enemy" of the education team turns out to be the student. The metaphor of the organism is less simplistic than the others, but it still connotes that the system is essentially reactive, not intelligent, and that we must provoke the reaction we want of it, not in any real sense interact with it, or consult it.

We do not have an adequate model of a school system, although some attempts are being made to construct one. Lacking a model, we are driven to continue to think in metaphors. As I say, we have to recognize the risks that go with metaphors--chiefly the risk of being carried away by the metaphor until one forgets that it is a metaphor, not a model.

Nevertheless, I would like to suggest yet another metaphor for us to use in thinking about the school as a social system. The metaphor is an ecology.

Most of us learned about ecologies as natural environments: a forest ecology, a fishpond ecology, a desert, a mountaintop, the abyssal depths of the sea.

Proceeding, I hope, with care, let us consider the possibility that the metaphor of the ecology will enlighten the question of strategies for change. Let us consider the bureaucratic social organization, which is a school system, from an ecological point of view.

To describe any ecology, one would seek to indicate the components of it which function interdependently in such a way as to give the overall system its character and its shape. What are the principal components of a school system? The following, I think:

1) The school system proper consists of its employed personnel. Its clientele--the students--function not as a determining component in the system, but rather as a necessary condition for its existence. Its community environment functions as a source of nourishment, producing stability or change within it, but not as a functioning part of it. That is, a school system could exist, briefly, without students or a community, just as I could without water. The water I need tomorrow is not part of my bodily system, and will not be until I have consumed it. In saying this, I do not wish to seem immoral, but only (like anyone who has said something a bit cynical) realistic. When one seeks to change a school system, I mean to imply that one seeks to change the employed personnel in the system, thus changing what is offered to students, and what is drawn from the surrounding environment. Mind you

students can exist without schools, but not schools without students. The community can exist without a school, but not a school without a community of some kind. So the first thing we say about a school system is that it consists of the employed professionals, and is nourished by its clientele.

How may we characterize a school system, so viewed? First, a school system is hierarchical. The power within it goes from the top down. The most powerful individual in any school system is the superintendent of schools. In any school system, there is a limited number of people--commonly not more than one in fifty--who, in fact, constitute the power system of the school. The most successful schools are therefore those with high charisma in the superintendent's office, or, as we like to say, "strong leadership." Or, to put it another way, the quality of the curriculum cannot long be better than the quality of the superintendent's mind.

Second, the personnel in the school system is constantly changing. The typical tenure of a school superintendent in the United States is less than five years. For example, the turnover of teachers in the schools in New Jersey, statewide, is approximately 20%--11,000 out of 55,000. "This is about double what the profession was experiencing and expecting five years ago."[1]

It follows, third, that continuity in school systems is more nearly a property of the structure, the materials, and the environment than it is of the personnel. That is, in personnel matters, the hierarchy continues, but not the individuals. In instructional policy, the evaluation and testing practices and the materials of instruction are the continuity, not the teachers. Physically, the school buildings represent far more continuity than do instructional policies or even the organizational structure. Perhaps those who look at a school building and call it a school--which has always seemed to me like confusing a house with a family--have been right all along.

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[1] NJEA Review, April 1966, pp. 474-5.

I have asked that we consider the school system from an ecological point of view. Let us consider how one might seek to change any ecology.

First, one would change an ecology by changing those crucial parts at which it is articulated--the joints of its structure, so to speak. These are the points at which the interdependence of its components is evident. If you wanted to change a school system, therefore, you would change the personnel in the powerful positions within it, or you would change their working relationships.

Second, one might change an ecology by altering the dynamics basic to its continuance. It is easy to imagine the change in a forest ecology that is brought about by a change in the climate--the rainfal, the number of days of sunshine in a year, and so on. If our metaphor isn't misleading us, it follows that if one changed the sources of money, the clientele, the personnel policies operating, or the pedagogical beliefs brought by teachers to the school system, then the school system would change.

Third, one can change a natural ecology by introducing an element into it that alters the interdependence in the system. Kill the insects, as Rachel Carson pointed out, and the birds vanish, whereupon the seeds aren't carried, and so on. In a school system, one could expect a system-wide change to result from a gross alteration in the testing program, or perhaps (as has been illustrated in the case of Manhasset, Long Island) the introduction of programmed instruction.[2]

The sketch I have offered above is not intended to be exhaustive, but to present the main elements present in a school system, taken as an ecological system. What kind of strategy for alteration of the system would make sense under these circumstances?

It must be clear that I agree with all those experienced school people who say that the school system is a complex affair. Any strategy intended to change any part of it would have to take the whole of it into account. The strategy would have to be comprehensive.

I should like to describe here the specifications for a comprehensive strategy set forth by my colleague, Professor Matthew Miles, of Teachers College.[3] Miles suggests there are four identifiable stages in the strategy for change, prior to its adoption by a system:

--Design of the Innovation

--Local Awareness and Interest

--Local Evaluation

--Local Trial

For a strategy to be comprehensive, all four of the stages identified by Miles have to be taken into account. That is, the design of the innovation must be adequate, local awareness must in fact be aroused, local evaluation must be adequate enough so that changes in the design to fit local conditions will in fact be made, and the local trial must be under realistic circumstances so that the innovation has a good chance of spreading through the system. The particular strategy undertaken

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[2] John Herbert and Arthur W. Foshay, "Programmed Instruction in the Manhasset Junior High School" in four case studies of programmed instruction, The Fund for the Advancement of Education, June, 1964.

[3] Miles, Matthew B. (ed.), Innovation in Education, New York, Teachers College Press, 1964, chapter 1.

varies enormously. From Miles's point of view, the use of curriculum councils and committees to prepare and install curriculum guides is a strategy, the development of regional research and development centers for the design of innovations, followed by a "county agent" who will work with the local system, redesigning as necessary, is another strategy; the development of conflict within the system, along more or less Machiavellian lines, is yet another strategy, and there are many others. The important thing about this concept is that if all of the elements in the strategy are not taken into account successfully, the innovation (change) will not take place.

For example, the Council for Basic Education has concentrated its efforts primarily on the development of local awareness and interest, with little attention either to design or local evaluation. The effect of this has been to produce very little change, although the Council has successfully generated a great deal of local anxiety. The Core Curriculum, an innovation in the thirties, was characterized by a half-developed design, much attention to local awareness and interest, some attention to local evaluation, and a great deal of attention to local trial--and the innovation did not withstand the pressures subsequestly brought against it, nor was it ever widely used. The Physical Sciences Study Committee curriculum in high school physics appears to have been a successful comprehensive strategy, in that the design was quite thoroughly developed, a considerable attention was given through the mass media to the development of local awareness and interest, and teachers were trained so that local trial could be undertaken. In this case, insufficient attention has been given to local evaluation, with the apparent result that some school systems are now dropping PSSC physics because of local evaluations which many would say are inadequately designed.

Not to make any more of our ecological metaphor than we ought to, it is perhaps of interest to recognize that Miles's comprehensive strategy allows for attention to the entire system simultaneously, provides for alterations within the system that do not necessarily threaten its existence, and at the same time permits the adoption of any of the approaches to the change of an ecology I have suggested earlier. Miles's notion of a comprehensive strategy is the most advanced of the feasible approaches to thinking about the problem that I have come across. I should like to compare his notion of how to bring about change with those that have been the most widely accepted during the short history of thought about curriculum development.

Perhaps the most widely accepted approach to curriculum change is represented by Alice Miel's book of 1945, Curriculum Change, A Democratic Process, and certain subsequent developments in this field. Generally speaking, this approach, which I shall call the "democratic" way asserts that those who are to be affected by an innovation should design it. It emphasizes the generation of improvement at the grass roots--that is to say, among the teachers themselves. Ideas so generated are to be subjected to cooperative experimentation, perhaps supplemented by relevant special training, and in general the creation of a research and development scheme within a system. The general idea is that if one will attend to the perceptions and feelings of the school staff, with a certain amount of guidance and encouragement, good ideas will be developed and brought to the point of action. This approach is basically evolutionary in concept.

I am not one to denigrate the "democratic" approach to curriculum improvement. Neither my experience nor my affiliations with it would permit me to do so. One of the interesting outcomes of this approach was the movement called cooperative action research, which, had it not been hounded out of existence, would have resulted in a considerably greater amount of internally induced change than has been true during the decade just ending.[4] Perhaps the greatest advantage of the democratic approach to curriculum change was its reliance on the idea that curriculum change rested on a change in the pedagogical beliefs held by the school staff. Its greatest limitation was, of course, its failure to provide for drastic change. When one relies entirely on a school staff for curriculum change ideas, one may expect proposals concerning how to make the existing system work, not how to replace it with another system, or how to change it fundamentally.

Another serious limitation in these times, of course, is that the approach presumes continuity in the school staff--a condition that no longer exists.

A second mode of curriculum development, also intended to change the beliefs of the school staff, thus changing the way they act, I will call the "political" way. As a method, it has been used more or less consciously at various times by the Progressive Education Association, The Fund for the Advancement of Education of the Ford Foundation, the Council for Basic Education, and in some cases by the Association for Supervision and Curriculum Development.

Briefly, the "political" approach seeks to make use of the need for external approval that almost any school system has, at the same time seeking to work with what I called earlier the points of articulation of the system.

To use the political approach to curriculum change involves three kinds of activity, which may go on in any order.

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[4] See Corey, Stephen M., Action Research to Improve School Practices, Teachers College Press, 1953.

One may bring pressure on the man at the top of the hierarchy through influential local people, through the local press, or through pressure from external agencies such as the State Department of Education or the U. S. Office of Education, both of which have direct controls over him of certain limited kinds.

One may also introduce "change agents" at key points in the school system. The curriculum director is by definition such a change agent. The superintendent may be; so may the department chairman in a high school, or (as recent experience has shown) teacher organizations may function as change agents.

Perhaps the most widely recognized examples of the political approach are the campaigns in the mass media, in which publicity is intended to function as a reward-punishment system. There has been one case after another during the past ten years of local school systems undertaking changes primarily to gain a good press. Some thought has been given to the politics of curriculum change, notably by Gordon Mackenzie.[5] Mackenzie's view is that since a school system responds to its environment, to induce a change and to make it last it is necessary to get the forces in the environment operating in the same direction.

A third widely recognized approach to curriculum change I will call the "county agent" way. Based on the U. S. Department of Agriculture's experienced of fifty years, its educational form involves the development of regional research and development centers, with assodiated local demonstration centers, the provision of a consultant (hence the "county agent" analogy) who will work with local school systems to develop and install the innovation. The assumption here is that local competition between school systems will lead other neighboring systems to emulate the one that has changed. Perhaps the most widely known example of the "county agent" approach is that described by Henry M. Brickell in his pamphlet on educational innovation in New York State.

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[5] See, for example, Gordon N. Mackenzie, "Curricular Change: Participants, Power, and Processes" in Innovation in Education, op. cit.

It should be apparent that none of these ways of bringing about curriculum change is of itself sufficient, and that none of them is wholly ineffective. The reason that I am impressed with Miles's comprehensive strategy is that it permits all of these approaches to be used, while not relying on any one of them exclusively.

So far, we have talked about school systems and their behavior. Let us consider one element of the process as a whole in some detail. We have, it should be remembered, so far talked entirely about change processes. We have not talked about the content of any particular change.

Let us consider what criteria are to be used in considering the inclusion of any given body of knowledge within the curriculum. I shall not presume here to try to illustrate from the field of vocational education or vocational guidance, since this paper is addressed to those who know this field much better than I. Permit me, therefore, to speak in principle, and to rely on you to supply the illustrations.

There are three major criteria that are inevitably applied to proposals for adding or dropping school subjects, or other organized curriculum activities.

The first of these is the criterion of transfer. The more generative, or generalizable, or transferrable, a given body of knowledge is, the more desirable it is in the curriculum. The more specialized, temporary, or esoteric the knowledge, the less likely it is to be included in the curriculum on any permanent basis. That's how it is, perhaps, that classical languages have by and large disappeared from the secondary curriculum of most students, both in the United States and in Europe. They were taught, not as bodies of knowledge that were generalizable, but as specific, somewhat narrowly conceived skills. If one takes a skill approach to the learning of a foreign language, it obviously makes more sense to learn a modern language than an ancient one.

Second, any given body of knowledge has a greater chance of being accepted in the curriculum if it can be seen as a part of somebody's theory of general education. Now, of course, we have no adequate theory of general education. However, there are certain rather loose terms that are widely used in this connection: terms like civilizing and civilization (perhaps referring to that knowledge which deepens one's knowledge of human society and of the human condition); intellectually invigorating (the kind of knowledge that deepens one's sense of the possibility and nature of inquiry and of logical thought); personally enhancing (that knowledge which has the effect of broadening one's awareness and sense of competence in the world), and the like. If the general purpose of education is to help a man become himself, and if a man is to be viewed as an intellectual, emotional, spiritual, esthetic, biological, social creature, then one asks of any proposed subject matter what it promises to contribute to each of these kinds of human development. In the degree that any proposed subject matter can be shown to contribute to many of these, it has a better chance of surviving through time.

Third, the proposed new knowledge must be pedagogically feasible. Teachers have to exist who know how to handle the new material (part of the downfall of the core curriculum was its dependence on teachers who didn't understand it); the time and facilities necessary for the new material to be taught have to be available. Some of us, for example, make a quick judgment about the academic validity of a high school by comparing the size of its library and laboratories with the size of its gymnasium. If such a judgment is a bit coarse, so are the products of some such schools.

All of these criteria I see as relevant to the design of an innovation. It has seemed to me that most frequently the transfer value of the newer fields has not been argued satisfactorily, as is the case for certain of the old, well-established, academic subjects. Notice what subjects, once widely accepted, have disappeared from the curriculum. Manual training, or "sloyd", vanished during the late Thirties, probably because it was seen as the development of hand skills, not as an art. Astronomy disappeared during the late Teens as a direct result of the report of the Commission on the Economy of Time--it took more time than its transfer value was thought to be worth. The classical languages have virtually disappeared, because they have not been taught as an introduction to civilization, but as a way of learning English, of all things. Concerning vocational education, it seems likely that Mr. Conant's characterization of the field as "marketable skills" has to be overcome if the criteria I've mentioned are to be met adequately.

It should be evident that curriculum development is not yet a science--though there are some lawful elements in it. So far, I have endeavored to describe the state of the art as it is now. Let me try to state what is implied by the comments I've made.

To bring about curriculum change,

1. Think of a school system as a hierarchical, transitory set of employed people, who function like an ecological system. One may enter the system at several points; effective curriculum development strategies

seek to enter at as many as possible. The points are:

a. through the hierarchy, by gaining the confidence and commitment of the de facto leadership

b. through the supporting community, by seeking to alter what it will support

c. through the materials of instruction, including the examination system

d. through the teachers, by altering their beliefs about what should be taught, to which students, and how

e. through the students (the clients) by altering the kind of student served by a school--or a given school program

2. Adopt a comprehensive innovation strategy, with thorough development of the design, the arousing of local awareness and interest, careful attention to the means for local evaluation and redesign, and the arrangements for local trial.

3. In order that any proposed curriculum innovation be sound and acceptable, bring to a maximum its transferability, its feasibility, and its contribution to all aspects of human development.

I wish to make one more comment on the question of the beliefs teachers have about teaching, subject matter, and students--a consideration cricial to any successful curriculum change. If I were in the position to try to bring about a given curriculum change, it seems to me that right now I would focus my efforts on teacher education. I have become very much impressed with the transitory nature of the teaching force. While a generation ago the corps of teachers was relatively stable, it has become progressively more and more unstable, especially in the elementary grades. One need no longer wait for twenty years for a new teaching force to appear in the schools; in a great many elementary schools, more than half of the teaching force is replaced every five years. As long as we continue to employ young women, we may expect them to marry, to bear children, and to leave town when the careers of their young and mobile husbands require it. If we wish to change the beliefs of the teaching force, we had better do it in the colleges where they are educated. Most of them hear whatever they are going to hear about education at that time. Their beliefs about education are set in education courses which, despite the many faults that afflict them, nevertheless have great influence. The next time you hear a young elementary school teacher declaring as a matter of natural law that a given subject matter is not suitable for third-graders, you can be sure that she is quoting some professor in her college, from whom she heard that dogma not more than five years ago.

If the elementary school teaching staff is the most unstable part of the teaching force, the college education staff is probably the most stable. We would do well, if we wish to bring about any orderly change in education, to focus our efforts on that change in the ecology which has to do with who is admitted to teaching, and on who teaches him about education. If we want to change young teachers, we would do well to examine what they are being taught in college.

If it were up to me, therefore, I would put all of the effort I had available into bringing about change in the professional preparation of teachers. I suggested earlier that the beliefs of those who are in the school system have a substantial effect on the way the system acts. The key to these beliefs is to be found in courses in which teachers are taught to believe that children have a limited ability to learn, that a school subject is really a set of procedures, not a set of concepts. I cannot stress strongly enough the importance of such a focus on teacher education. We are in a time when some of the most important new developments in education, such as the job corps, have been taken out of the hands of the educationists altogether. One reason for this is that the educationists--by this I mean all of us, but especially the young, new teacher--have shown themselves too rigid and doctrinaire to discard approaches that fail and to invent new ones. It is possible that national interest would best be served by two differently conceived school systems--the one official and academic, the other emergent and practical; the one conducted by tax-supported official agencies, the other by private organizations working under contract. Even if this were the case, however, our hopes for a better school system would turn, it seems to me, on the training of those who enter it--the teachers--especially given their transitory nature.

I have said that it seems to me most helpful to view a school system from an ecological point of view. Such a view suggests that the most effective ways to bring about change in the system consist of changing the nature of the nourishment it draws from its environment, introducing change agents into it, and changing the character of the interdependence system of which it is composed. I have explained how it is that a comprehensive change strategy seems more adequate to the problems we face than a less than comprehensive strategy, and have implied that the strategies most widely discussed now are in general less than comprehensive. With respect to the content of new changes, I have suggested that the broader their application to the nature of man, the more likely they are to be accepted in the long run, and to survive. And finally, I have suggested that the one most crucial element in the ecology, as it seems to me, is to be found at the point where teachers are trained.

CONJUNCTION OF CAREER DEVELOPMENT AND CURRICULUM?

PROBLEMS AND POTENTIALS

Henry Borow
University of Minnesota

A Capsule of History

One of the venerable intramural games invented and played with zest by academicians starts by positing a fundamental incompatibility between the intellectual and liberating aims of schooling on the one hand and the economic and vocational aims on the other. The rules generally require the advocates of the former position, which Shoben once characterized as the champions of the "sheer stocking intellect," to assume the offensive. They initiate the game by asserting that (a) liberal and vocational education are mutaually exclusive, (b) the pressures exerted by a vapid and Philistine culture, a culture increasingly dominated by economic and material values, have spawned creeping vocationalism and subverted the original lofty ideals of liberal education, and (c) something ought to be done about it. Rather than extend the description of the game, the elements of which must surely be known to most participants in this conference, and without aligning myself with either St. George or the dragon, I want instead to observe, first, that there have always been those who have advanced a vocational raison d'etre for our schools and colleges and, secondly, irrespective of what civilized aims of the teaching-learning enterprise we may advertise in our institutional catalogues, our students have consistently and emphatically assigned a high premium to the vocational outcomes of schooling.

Andrew White, the celebrated co-founder and first president of Cornell University, was concerned that both students and parents appreciate the

potential contributions of collegiate education to the effective occupational functioning of graduates, prepared a modest volume in 1884 titled What Profession Shall I Choose and How Shall I Fit Myself for It?. Its unabashed purpose was to give Cornell students assistance on courses of study and on the choice of subjects which might best prepare them for the diverse occupations generally entered by college men. We may remind ourselves that our early denominational institutions of higher learning, now retrospectively regarded as strong bastions of the liberal arts tradition, offered not only the classics, languages, and moral philosophy but additional elements in the deliberate preparation of young men for such professions as the ministry, law, and medicine. And surely, our land grant colleges, created by Congressional enactment more than one hundred years ago to equip youth for work in agriculture, the industrial arts, and the technologies, have from the beginning had a clear and unmistakable vocational training mission to fulfill. It is, as of fact, startling as well as instructive to examine the curricula of the land grant college of the later part of the nineteenth century and observe how vividly specific, workaday, and practical were their courses of study.

Historically, with the exception of the farmers' high schools, the early secondary schools displayed a far slighter vocational emphasis in their curriculum than did the colleges. Inasmuch as their students were predominantly children of the socially and economically privileged, and typically college bound, the appellation "preparatory schools" was validly descriptive of their purpose and function. Gradually, of course, the democratic base of formal education broadened, especially in the public secondary schools, so that increasing proportions of students were drawn from the middle and lower socio-economic strata. Far more commonly than their select precursors, the new masses sought additional education as an

avenue of entry into the labor force rather than into college. Their aspirations and needs were reflected in the changing curriculum. Thus, the American high school found itself with the necessity of balancing off its college preparatory and vocational objectives, a problem with which the comprehensive, multiple track high school of today still wrestles.

What of vocational guidance? John Brewer and Carroll Miller, among others, have located the early history of the movement not within the schools and colleges but within the field of social work. The period around the turn of the twentieth century witnessed the transmigration of large numbers of rural youth to the teeming centers of manufacturing and the influx of European emigrants who needed to be socialized into American culture. What this meant in practical terms was that the uprooted and transplanted needed basic literacy education, preparation for citizenship (in the case of aliens), assistance in acquiring the social amenities and proprieties prerequisite to employment and, finally, help in locating employment itself. These tasks the settlement houses and allied social service agencies of the day sssumed for themselves. With a few exceptions, such as Jesse B. Davis' work on the career problems of students at Central High School in Detroit and that of Eli Weaver at Boys High School in Brooklyn, New York, the secondary schools provided career assistance through vocational training rather than by means of the particularized techniques of vocational guidance.

As Carroll Miller has recorced, responsibility for vocational guidance services began to shift from the social work agencies to the schools about the time of World War I. Influences upon the growth and shape of school vocational guidance came from three comparatively independent movements, the social work activities identified with Frank Parsons, Meyer Bloomfield, and others, the testing and personnel screening program of World War I army psychologists, and the training and placement activities of the expanding field of vocational education. I shall not take time here to trace the contributions of these source fields or to assess their strengths and deficiencies. I wish instead to move directly to the impact (skeptics would say incursion) of vocational guidance thought upon the formal curriculum of the schools. Under the impress of a flourishing doctrine of instrumentalism, numerous educators in the period between the two great wars articulated their concern over the alleged gulf between the experiences attendant upon school life and the demands of the world of practical affairs. Some noted the aimlessness and discouragement of many youth and called for infusion of the values and objectives of guidance in the curriculum. (Counseling and pupil personnel services as a distinct professional specialty within the schools was only then beginning to take form.)

In the train of this sentiment there began to appear in many high schools an instructional unit or course variously called "Occupations," "Careers," "Vocational Guidance," and the like. While there is risk in ascribing a sameness to these units, they conformed in general to the following description: (a) they were two-to-six-week units placed within a social studies class, typically at the seventh or ninth grade; in a smaller number of cases, the units occupied eight weeks or even an entire semester; (b) in some instances they were incorporated as part of a comprehensive course called "Guidance: or "Orientation," which also contained units on study habits and human relations; (c) the occupations units were usually taught by social studies teachers, occasionally by English teachers, assistant principles, or school counselors; (d) they typically adhered to the Parsonian rational model of assisting the student with an overview of the world of work and an appraisal of the student's relevant personal assets and liabilities toward the end that he might make an appropriate match of self to occupation; (e) such units occasionally involved field trips and visits to the class by employers and other occupational authorities but they rarely integrated the group experience with opportunity for individual counseling.

The generic course unit I have here described is an example of the sort of curricular experience which later drew heavy fire from educational fundamentalists such as the Arthur Bestors (The Restoration of Learning) and the Admiral Rickovers, both before, but especially after Sputnik I. It qualified as a superb foil for those who inveighed against the alleged anti-intellectualism of so-called "life adjustment education," a term implying utmost contempt and invoked as an anathema by the advocates of the hard-core curriculum. For their part, counselors and vocational psychologists generally showed little disposition to defend such guidance units, since they regarded them as (a) having been founded upon intuitive and impressionistic conceptions of youth as potential workers, (b) taught by unqualified persons, and(c) divorced from counseling procedures.

The occupations course has been indeed guilty, as I have recently noted elsewhere, of ignoring the students "as a purposive, goal-seeking learning organism." Rarely has it drawn in an informed manner upon the insights of motivational, learning, and perceptual theory. Moreover, the zeal of those who espouse the cause of the occupations course has been too rarely buttressed by empirical tests of its efficacy. The literature is awash with flattering descriptive reports of such courses and course units, but evidence that they make a difference in the vocationally relevant behavior of school youth and post-school youth rests largely on rating scale testimonials by students and instructors. Hoppock, Cnony, and their associates have published some results to the effect that students exposed to occupations courses earn more at their first post-school jobs, but I believe that the troublesome problems of sampling and control of extraneous variables have not been satisfactorily handled in such studies.

A notable exception to this complaint is the study involving materials development and evaluation which was funded by the Rockefellar Brothers' Fund and conducted by the Educational Testing Service Guidance Inquiry under the principal direction of Martin Katz and Benjamin Shimberg. Dr. Katz, who prepared the combination text-and-workbook, You: Today and Tomorrow, and the accompanying Teachers Guide, reported encouraging results with the materials as used in a number of eighth and ninth grade class settings, but he cautions that the positive outcomes speak for the potential virtue of the group guidance experience chiefly as an adjunct to individual counseling, not as a substitute for it. At the recent University of Pittsburg conference on "Occupational Information and Vocational Guidance," Dr. Katz enumerated some of the problems and pratfalls of evaluation in this curricular domain.

Work in Flux: Changing Conditions, Changing Meanings

It is superfluous to report that a burgeoning technology has transformed the occupational structure. New jobs are emerging, older ones disappearing or undergoing change at a more rapid rate than any time in the nation's history. A comparison of the 1949 edition of the Dictionary of Occupational Titles with the newly issued third edition abundantly dramatizes the pervasive character of the changed and changing world of work. Extracting sage social meanings and prophecies from this occupational metamorphosis has taken on some of the marks of a popular pastime among those who interpret the contemporary scene, but I have no intention here of running through the full catalog of their pronouncements. I wish merely to identify a few of the concomitants and consequences of change which, as I see them, cannot be ignored by educators who worry about the contributions of curriculum to career development. In the interest of brevity, I shall risk charges of oversimplification and dogmatism by noting in each instance a dominant trend without extensive qualifications or elaboration.

(1) Formal education as a prerequisite for entrance into many occupations has assumed new prominence. By 1959, the unemployment rate of school dropouts had risen to about double that for holders of the high school diploma and more than three times the rate for those with some college training. In the same year, Americans employed in the clerical and sales occupational category were already averaging a little beyond a high school degree. Professional and technical employees were averaging a little more than a baccalaureate degree.

(2) Societal barriers increasingly wall youth off from early, full-time labor force participation. The principal restrictive mechanism is the demand for more education, but the related qualifications of age and previous work experience are also involved. Thus early and direct experience with work is open to fewer youth. In the earlier decades of the century, it was the practice to use age fourteen as the basal age for labor market participation. The average age at which today's youth enters the labor force is estimated at about twenty.

(3) Increasing numbers of jobs are either more intricate and complex than higherto or they have become fragments of larger work operations. Moreover, large-scale organizations having an inscrutability and impersonality not found in the small, intimate setting of work tend to account for increasing proportions of employees. The net effect of these trends has been to make the work of

parents less visible to their children. There are fewer opportunities than formerly for children to witness parents first hand at work or to talk with them comprehendingly about their work, much less the opportunity to work alongside them as, for example, in the case of the farm youth or the son of a small shopkeeper. (4) Accompanying the growing complexity of the occupational world and the rising divorcement of youth from work is the broadened freedom available to youth for personal decision-making, including decisions about curriculum and vocational plans. The phenomenon of occupational inheritance is now a minor factor in occupational choice in America. In a 1963 study of 1,000 Chicago male subjects, Duncan and Hodge found only a 10 per cent incidence of sons entering their fathers' occupations. I believe we can, with some confidence, surmise that many if not most of the 10 per cent group represent examples of "forced inheritance" by which conditions of restricted opportunity and cultural deprivation ensnare the child and make it difficult for him to avoid entering the parents' low status occupation. But paradoxically, for the majority, there is increased responsibility for personal choice-making concerning vocational plans at a time when the options have become more numerous and puzzling and when youth probably has less acquaintance than did his forebearers with some of the essential elements of choice. Knowing this, we are better prepared for results such as those yielded by a recent American Institute on Research Study revealing that better than one-third of the graduates of a superior suburban school expressed the wish, five years following graduation, that their school had provided more career guidance.

(5) An onrushing technology appears not only to be altering the

occupational structure, the place and conditions or work, and, for many employees, the length of the work week, but beyond that, to be changing the meanings and values attached to work. Georges Friedmann, Adriano Tilger, Riesman, Weiss, Wilensky, Wrenn, and others have essayed analyses of historical and contemporary work meanings and of the dependence of work meanings on the morality of the cultures with which they are associated.

It is beyond the scope of my presentation here to treat the issue in detail. Yet, at this particular conference, it is appropriate to observe that in an age of affluence, one in which the real gross national product per capita is more than three times its turn-of-the-century level, the concept of work as a way of sheer biological survival against the menacing and grudging forces of nature can surely have little significance for most American youth. But for a select few who regard themselves as having been called to "vocation" in the literal sense, the divine significance of work appears to have been largely supplanted by a secularized, mundane interpretation, namely, bartering one's efforts and skills for the tokens of consumption. Ascetic notions of work, man's sweated toil as a self-purification rite--these drives toward work seem largely passe, if indeed they ever actually existed for most people as more than a caricature, an idealized representation of noble but mortal men set against nature.

The ascendant function of work as a means of increasing one's power to consume the goods and services of a fabulously abundant society is sharply mirrored, paradoxically, in social concern about those who do not or cannot work. We speak of a guaranteed minimum family income as a way of providing at least a modest capacity for consumption for all citizens. The public welfare programs which were initiated in the

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Alien also to career development thinking is the notion that equated educational and vocational guidance with planned manpower distribution. Thus, Conant's idea of the counselor as someone resembling an occupational traffic officer who directs his counselees hither and yon along suitable career highways and byways is rejected in favor of the set of notions that vocational development is a (a) psychological potential which can be better understood through research, (b) process which can be cultivated in youth by the interposition of hygienic conditions of psychosocial experience, and (c) personal resource to be employed by the individual in rational decision-making and in the effective management of his own life.

Career development theory assumes that vocationally relevant behavior begins in early childhood; that it can most profitably be studied as a progressive, ongoing process; that its subprocesses can be meaningfully ordered according to psychological life stages; that each of these stages involves meeting and learning to cope with crutical developmental tasks; that many of these developmental tasks center on the acquisition of coping mechanisms and mastery behavior which subsume career related choices and adjustments; and that the choices which the individual makes and the manner in which he enacts the resultant roles form a researchable life sequence known as his career pattern.

Throughout the career development process, but particularly in the exploratory stages, the individual's encounter with vocational developmental tasks may be viewed as instances of reality testing in which he takes a variety of social roles, tests them for consonance with self, often unconsciously, and develops a progressively differentiated and stable self-image. Thus, in motivational terms, his striving to arrive at an appropriate vocational goal may be interpreted as a search for a work role that is harmonious with the need structure resulting from the gratifications and frustrations of early life (Roe), as a search for the new ego identity that marks the adolescent stage (Erikson), or as an attempt to implement an already emerging self-concept (Super). Obviously, there are stricking similarities between these interpretations of the quest for an occupational role--only in the life stage which each chooses to focus upon do they differ somewhat, and even here they shade into one another.

In the main, the foregoing assertions are to be best regarded neither as a priori truths nor as strainghtforward, empirical propositions confirmable through direct, controlled observations. They are rather heuristic statements which allow us to arrange ideas about vocationally relevant acts in a serviceable network from which seminal inquiries may be extracted and put to test through both the laboratory and action research modes.

Research Speaks to the Curriculum: A Monologue

Scholarly publications which conceptualize occupational behavior in career development terms occupy a time span of under twenty years. Yet the yield in innovative theoretical contributions and, more recently, in research contributions has been impressive, particularly in contrast to the spate of simple-minded and repetitive correlation studies produced for more than half a century within the framework of the traditional trait-measurement model of vocational choice. It is only rarely, however, that career development research is expressly designed as an aid to curriculum construction. Those who search for improved empirical foundations for the redesign of that segment of the curriculum which touches guidance will have to turn a discerning ear to those who report research findings have equal relevance for curriculum.

What follows below is one attempt at discernment--a filtered review of recent research which I believe has something of significance to say to curriculum. It will remain for those who experiment with guidance aspects of curriculum to bring these findings to bear upon the contents and methods of classroom instruction.

1. The enormous complexity of modern industrial society, coupled with the virtual elimination of children's supportive role in work, result in young children in a sense of utter naivete, bewilderment, and estrangement vis-a-vis the occupational world. In a detailed and ingenious projective study of the social perceptions of first-grade and sixth-grade children, Estvan and Estvan found the pictured environment of the factory to be one of the most difficult life situations for their subjects to interpret. Few of the subjects were able to form an identification with concepts of work. Work was something that adults did. The interview protocols of these children showed a paucity of imaginative self-references regarding work.

2. While contemporary American youth is frequently walled off from direct confrontation with work, he nonetheless acquires from the culture rather powerful sets of attitudes and biases about work through the mechanism of unconscious social imitation. Such attitudes, which begin to take form quite early in life, apparently serve to establish in the child's behavior perceptual defenses against many categories of occupations. I have elsewhere referred to this phenomenon as "subjective occuaptional foreclosure," and evidence has been accumulating to support the validity of this construct. A revealing study of the views of work held by children in the Palo Alto area, for example, showed that the uniformly favorable attitudes associated with a wide range of occupations among primary school children converted to negative dispositions as the children grew older. By the time they were tenth graders, the social awareness gained through

incidental learning had given them the ability to rank occupations essentially as adults do, that is, according to the perceived power of an occupation to confer prestige. Their explanations for their rankings of jobs below the highest levels of the hierarchy were chiefly in terms of rejection. Confirming evidence comes from work performed by Richard Nelson who found that negative response sets toward occuaptional stimuli are discernible as early as the third grade and that the proportion of reactions of rejection to such stimuli (occupational titles) increases with age. Contrary to the widely shared belief that the progressive differentiation of vocational interests in youth reflect the crystallization of a set of positive attitudes or preferences, Tyler's work with ten-year-old subjects suggests rather that such differentiation is more correctly interpreted as the acquisition of a set of dislikes. Caplow's classical work on the sociology of occupations contains similar intimations about the phenomenon of subjective occupational foreclosure. Nelson's concern is that the biases that children assimilate about work are internalized and account for a premature narrowing of the domain of potential career choice. The condition, Nelson feels, is especially grave since the school typically makes few systematic and effective efforts to combat the negative stereotypes by means of realistic exposure to the world of work.

3. In general, children's knowledge of occupations and their attained level of vocational development tend to rise as socioeconomic status, intelligence, and school grade level rise. Occupational sophistication is shown also to be related to urban as against both farm and non-farm rural background. Yet these same personal and environmental variables are negatively related to attitudes toward occupations. Subjects who respond most favorably to occupational stimuli are generally younger, intellectually duller, of lower social class origin, and from rural backgrounds. Being

bright, mature, and culturally advantaged evidently allows one to learn contempt for a large number of occupational categories more successfully. One learns the system, that is to say, how the game is played.

It is not so surprising, then, when Super and others find that their subjects know more about the requirements for entering their preferred occupations than they do about the formal duties of work. O'Dowd and Beardslee's work shows convincingly, at least for bright, upwardly mobile liberal arts college students, that youth is more acutely aware of the social status of an occupation, of its potential power to provide access to a preferred way of life, than of the Dictionary of Occupational Titles description of that occupation. Nor can there be much doubt about which of these has greater influence upon his choice of career. Yet the preoccupation of classroom group guidance units with the formally assigned duties of an occupation and with the cognitive aspects of vocational choice betrays an ignorance of, or at least an indifference to, the value-laden dynamics of occupational commitment.

4. Specification of career choice, surveys of both British and American students indicate, often follows benign experience with an outside job. This is especially true when the student is fortunate enough to locate part-time employment in a field of work related to the occupation for which he has previously expressed a preference. Some studies of American rural youth have suggested that many of them regard their outside work experience as more influential in the selection of a career field than the human agents with whom they have had contact.

5. Until recently, parents and teachers were most prominently mentioned among individuals who influenced youth in the choice of occupation. With the professionalization and rapid extension of school counseling programs, students are now naming counselors with greater frequency than

formerly. In a 1961 survey of 400 high-achieving students enrolled in a university-sponsored national high school institute, fully one-third of the respondents cited their school counselor as the individual from whom they had received most help in the making of educational and vocational plans. Krumboltz's recent work on the systematic use of operant learning techniques with students seeking help with educational and vocational planning suggests the potential utility of the counselor and the trained group guidance instructor as social reinforcers of vocationally mature behavior.

THE PLAUSIBLE FUTURE:
SOME TRENDS, SOME QUESTIONS, AND SOME ANSWERS

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We will explore here aspects of what seems to be the direction of the next two decades in the United States, especially as these pertain to preparing youth for their future careers: that is, preparing them for the environment which they will work in--and which will give meaning to their work--as well as preparing them for what they will work at.

Given our national inability to arrive at concensus on what is our present state of affairs and what has contributed to it in what specific ways, one would conclude that either humility or arrogance is needed to try to delineate the next two decades and the nature of the factors which might contribute to their form. I claim the former state of mind.*

Regardless of style or state of mind, seriously and consistently speculating about the next twenty years or so is an increasingly mandatory exercise for those who are concerned with career planning, vocational guidance, and youth development programs of all sorts. To counsel those who will live in the world of the next two decades and to prepare those who will have the special role of guiding the young, will take all we can accomplish by way of advance planning and action based on long range assessments of that world. We have no rational choice but to try to imagine what the trends of the next two decades might be so that we can prepare tomorrow's adults and tomorrow's youth to deal with them--recognizing that while we cannot predict with certainty, we can anticipate that which we ought to be prepared to deal with. Just as we prepare our national defenses--not for what will happen, but for a number of eventualities which might happen--so, too, we must prepare our resources for social growth.

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* (But humility will not relieve me of an awkward stylistic impasse: to precede every speculation with "might" or "Perhaps" or "may" makes for dull reading; to precede these speculations with "will" gives them a magisterial note they do not warrant. Yet, more often than not I will use "will" simply for its stylistic advantage. Please understand that, at best, I intend "will" to mean no more than a particularly good bet.)

Twenty years is a more or less arbitrary figure. In the first place, such is the pace of both technological and social change that to speculate beyond that time period quickly becomes fantasy. Indeed, two decades may be too long a time to speculate about with any reliability. On the other hand, barring unique confluences of history and genius, the population that is going to influence the world over the next two decades is alive today: today's youth will be in their 30's and 40's twenty years from now, and today's infants will be entering adulthood. Thus, in important degree, we will at least be familiar with most of the various value systems which are likely to be generally operative or marginally significant. Since values specify what is right and wrong, what is worth aspiring to and worth preserving, familiarity with the prevailing patterns is necessary for our task. If we go much beyond this period, it may well be that the accumulated consequences of various technological and social trends here and abroad will result in such different prevailing values that it becomes virtually impossible to anticipate what that world would be like.

During this twenty-year period various trends will be evolving and interacting, and we will explore some of them. Their rate of evolution is moot, however: some may occur sooner than now anticipated, others later. The rate of development and the significance of a particular trend will depend on its interactions with other trends; the consequences of a development will seldom be caused chiefly by the development itself. These interactions will also depend on the extent to which we recognize what is or is not happening and are willing to do something about it. Poverty and discrimination against the Negro have been with us all along, for example. Our recent recognition of their existence means our world will never be the same again. Futhermore, the significance of the government as the stimulus for particular developments will increase and the timing of social change then takes on political considerations as well.

What is clear, even if the dates are not, is that the trends and developments we shall explore will not occur evenly throughout the society and not all trends will evolve at the same rate. Many social challenges--many career opportunities and career frustrations--will grow out of just those circumstances produced by the differential rate of development and diffusion of social and technological trends. In particular, many problems and opportunities during this period will arise from the ways in which the persistence or resolution of substantial differences in perspectives and life styles are expressed. These differences in perspective will be particularly evident between the new group of adults phasing out of power. The distinguished British public servant and theorist on organization and social change, Sir Geoffrey Vickers, describes the coming processes of transition this way:

> ...political and social life is bound, I think, to become much more collectivist or much more anarchic or--almost certainly--both. Communities, national, subnational and even supranational, will become more closely knit insofar as they can handle the political, social, and psychological problems involved and more violent in their rejections insofar as they cannot. The loyalties we accept will impose wider obligations and more comprehensive acceptance. The loyalties we reject will separate us by wider gulfs from those who accept them and will involve us in fiercer and more unqualified struggles. ("The End of Free Fall", p. 21)

Obviously, there is no way to cover meaningfully here the full range of likely significant trends these twenty years may encompass--even if they were known. In particular, I will not explore what very well might be more important for our futrue than anything that actually happens in the United States: that is, what happens in the rest of the world, particularly in the emerging nations. What I will do is try to provide a sense of where we seem to be going by reviewing a few demographic statistics and then with these as background, I will use our chief mode of both economic growth and creative expression, technological innovation and elaboration, to sketch important outlines of the next two decades. From this perspective we will explore aspects of the future of work, leisure, and democratic participation which seem pertinent for planning careers appropriate to that period. Much of what I will draw to your attention will have a familiar echo to it, for much of what we will examine is already under way, either in practice or inherent in laboratory models or legislative and operational plans.*

Let us turn now to the developing demographic characteristics of this country which will profoundly affect the social context and hence the implications of the new technologies in the decades ahead. We expect around 230 million people in the United States by 1975, about 250 million by 1980--and a world population of 4 billion by 1977. By 1970 young people will make up about half of our population, and by 1980 those over age 65 will have increased by almost 30%--unless the toll from smoking, DDT, etc., is unexpectedly high. By that time, too, approximately 80% of all Americans will be living in urban areas. Cities now separate will be merging into megalopoli stretching from Norfolk to Bangor, from Minneapolis to St. Louis, from San Francisco to San Diego. Thus, during this period the very idea of the city will alter as physical mobility becomes ever greater, communications ever more accesible, as new cities are built in the interstices separating the old ones, and as the older cores of some central cities rot while those activities which gave them life move outward and their poor and dispossessed concentrate inward.

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* The discussion herein derives from a much more systematic and detailed examination of the trends likely to characterize the next twenty years found in my book, The Next Generation: Prospects Ahead for the Youth of Today and Tomorrow. (New York, Random House hardcover and Vintage paperback #273, 1965)

With these demographic trends in mind, we will examine four technologies, each of which will have unprecedented power for enlarging and for inhibiting the potential of the individual and of society. Unprecedented because never before has it been possible to apply them on the large scale which will be increasingly feasible and increasingly necessary. And never before have the means for affecting society on such a scale been so potent--so likely to result in significant changes, whether or not they turn out to be those intended. Whether these technologies will enlarge or inhibit the potentials of the individual and society will depend on more than the technology itself. It will also depend on whether the society provides sufficient educated manpower to use them skillfully and sufficient numbers of humane citizens who insist that they be used wisely. While the generations we prepare now for tomorrow's careers will not be the only persons to affect the direction of the society, the extent to which they possess the skills, commitment, and wisdom needed will disproportionately influence its direction--for better or worse.

First, consider the technology invented by management specifically in order to carry out mammoth research and development programs. This technology is especially dependent on systems analysis, long-range planning, operations research, and other sophisticated methods for attaining and evaluating efficiency. It integrates thinking, laboratory and industrial operations, and organization, so that the pace and application of intellectual activity are regulated much as assembly lines regulated human physical activity. First applied to the development of strategic weapons, then to space exploration, the technology may next be used in undersea exploration. And it could as well be applied to reorganizing our transportation systems or to "developing" an underdeveloped nation, to city rebuilding and new city building, or to planning and operating an educational system. This set of highly rationalized techniques provides the means for sufficient control over the physical and human environment to harness human and material resources on such an immense scale as to influence the educational, economic, and political balance of major sectors of the nation. One partial but powerful expression of this approach is found in the program budgeting and planning methods first used in the Pentagon and now, at Presidential insistence, being hesitantly and falteringly applied to activities throughout government agencies, including the Departments of Labor and HEW. Because it purports to--and sometimes does--provide a basis for demonstrating the costs compared to the benefits of alternative packages of projects aimed at particular programatic goals, it permits in principle much tighter and efficient implementation, control and evaluation of large-scale social innovations.

The second technology I want to mention is cybernation, that is, the use of automation and computers. These cybernetic devides have been steadily displacing the unskilled; they are now beginning to disrupt the job security and job content of the engineer, the white-collar worker, the auditor, the machinist, and the middle-level manager. As Dr. Börje

Langfors, a Swedish expert in this area, wrote in the February 1964 issue of *International Science and Technology*:

> Computers have developed designs that range from airplanes to architecture, from electrical circuits to clothing, from ships' hulls to highways. The results have exhibited the constraints of an experienced human designer's feel for form and esthetics and his canny knowledge of the possibilities and limitations of the production facilities.

And he goes on to say that in the future, "the designers will design the designing systems which designs the actual object."

To me, this quotation presages much more about the future than simply the reduced economic value of the orginary "brain-user." In the first place, all those whose work is not fundamentally creative, then, are the potential victims of cybernation. So compelling are the competitve and operational reasons for its use that only a major social disaster will slow its implacable usurpation of the routine economic activities which most people equate with self respect and livelihood.

In the second place, the use of the computers to simulate and model social and physical processes so complex that, working without the computer, no mind could conceive of or understand them, means that new and highly abstract concepts of "reality" will be developed and applied by the scientists and technicians. These concepts, by their very nature, will not be sharable with the average man any more than quantum mechanics or relativistic cosmology are today. Thus, cybernation will make possible high policy choices, based on theories about social and material reality, which will not be understood by those who will be directly affected and who thereby will not be able to judge either the validity of the policy or its implications for them. (We already know this is the case with the arguments pro and con the development and deployment of exotic weapons systems--which are in large part based on such computer analyses.) C. P. Snow, now the Joint Parliamentary Secretary of the British Ministry of Technology, has summed up the challenge this way: ...one can't help brooding over the cybernetic revolution which is now breaking over us--the revolution which is being caused by the new sources of information and control, the computers whose effect (and whose putative nature) we are only partially beginning to understand.

One thing standsout as a warning and as a hope. This is going to be the biggest technological revolution men have known, far more intimately effecting men's daily lives, and, of course, far quicker, than either the agricultural transformation in Neolithic times or the early industrial revolution which made the present shape of the United States. To understand the actual technique of this cybernetic jump, we shall need deep and original conceptual minds....This means that mathematicians--or, more exactly, any men and women of mathematical insight--are going to take on a new relevance in all advanced societies. Much of our future--not the far future, but 15 years ahead--depends upon the talent of children not yet in their teens. ("Government, Science, and Public Policy." Science, Vol 151, 2/11/66, pp 652-653)

A direct product of the computer becomes the third technology which confronts us: social engineering, the systematic application of knowledge in economics, the behavioral sciences, and so on, to the design, planning, and manipulation of the society and its parts in order to efficiently attain specified goals. On the one hand, the computer provides the behavioral scientist with the means for combining in complex models as many variables as he wants in order to simulate the behavior of men and institutions. In the past , the behavioral scientist could not deal with as many variables as he thought were important for understanding the predicting human behavior. Now he can, using the immense capacities of the computer. And then he can test these models against conditions representing "real life." For, on the other hand, the computer provides a unique capacity for collecting and processing enormous amounts of data about the state of individuals and society today. The behavioral scientist not only can know the state of society now as represented by these data, but thereby he can use them to test and refine his theoretical models intended to describe society. Of course, not all that is significant about man and his society can be expressed numerically. But certainly important aspects can be so expressed and our understanding thereby increased. What's more, the stimuli for attaining and applying such knowledge now exist through vastly increased governmental interest in such nation-wide social welfare activities as the poverty program and the extended education legislation, and--while we don't talk about it--counterinsurgency.

Already behavioral scientists, using the computer, have significantly improved our ability to describe the way men think about and solve certain types of problems. And together they have substantially increased our ability to predict how various populations with specific background characteristics will deal with conflicting information on political issues. The computer is critical for much of the management technology earlier described. And it also provides the technology for teaching four and five-year-olds to read. (Note, however, it does not provide parents with the moral and ethical wisdom to interpret to these youngsters the significance of what they read, say, on the front page of the newspaper.) This powerful technology for predicting and influencing behavior may come just in time to rejuvenate the democratic processes--or, irresponsibly applied, it may totally destroy them.

The fourth technology is biological engineering: the sophisticated manipulation of organisms, directly and by modifying the organism's biological environment. This technology will continue to be used to produce bacterial, viral, and chemical agents for special forms of warfare both to kill and to pacify. In future years biological engineering will begin to be used to alter the genetic code which transfers to the next generation the directions for its nature and form. Sooner than that, there will be an increasing capacity to manipulate the organism once it is born, to increase the size of the brain or the heart, etc., by the selective use of chemicals before and after birth, to transplant organs from human to humam, and to replace human organs with electromechanical substitutes. And we shall also see biological engineering used to modify emotional states and mental abilities. Recent work in facilitating and inhibiting memory through chemical agents doubtless presages a new ethical challenge and operational consideration for educational practice. Telemetering and computer techniques already in use for monitoring, diagnosing, and treating biological malfunctions will be greatly refined with stress even to the point of death, will teach us much about the extraordinary but unexplained resources the mind and body can marshal under such circumstances. This knowledge will doubtless have its applications in more mundane situations. Increased understanding of biological growth and organization will produce important improvements in the prevention and control of disease. The resulting increase in the numbers of healthier elderly people will expand the group for whom leisure will have to take on a new role if life is to be meaningful. Lynton Caldwell, writing in the October 1964 Yale Review, poses the challenge of biological engineering this way:

> The coincident and related explosions of human population and of biological knowledge may conceivably represent the most critical stage in human evolution since the last great ice

> age. The ability and necessity to control the numbers and hence (in some respects) the genetic characteristics of future populations could create a situation without precedent in human existence. And, in addition, the availability and refinement of chemopsychiatric drugs suggests both hoped-for and frightening possibilities for the manipulation and control of human behavior. Never before have the necessity and the possibility of control over man occurred at so decisive a conjunction.

In the light of such technological and demographic circumstances, let us consider some plausible characteristics of work, leisure, education, values and viewpoints, and decision making. First-rate professionals, including managers, will be in short supply--probably in increasingly short supply--in the years ahead. Population growth, social complexity, higher social aspirations (as represented by the antipoverty program, Medicare, Headstart, etc.) will require more highly skilled people. But our educational system right now is not designed to produce the numbers and qualities needed in the next two decades. At the same time, great numbers of the unskilled, and many skilled blue-collar workers and middle-level engineers will find their jobs disrupted and often usurped by technological change.

It could very well be tragic if we were to premise our career planning on the sanguine assumption that the present low rate of unemployment will continue as the norm. As the Wall Streer Journal comments, in reviewing the President's fourth annual manpower report to Congress:

> Uncertainties and imponderables abound, of course. It's worth noting, for one thing, that the current employment boom (with jobholders increasing at a 4-million annual rate during the past two months) is largely fueled by hiring in the goods-producing industries, in turn stimulated by consumer buying and the Vietnam buildup in Government spending. This hiring has bitten notably into the ranks of the unemployed marginal workers...
>
> In any case, other questions must be considered: What will be the employment impact of a tax increase if the President decides one is needed? What will be the effect when current high investment in plant and equipment

> brings modern facilities and cost-cutting machinery on line?
>
> In the latter case, the likely answer is that the present marginal hirees will be speedily shucked. (John Grimes, "Labor Letter," 3/15/66).

And while the report of the National Commission on Technology, Automation, and Economic Progress argues that it is feasible for this society to meet the work force challenge of new technologies, particularly cybernation, the requirements it sets out for doing so are little short of revolutionary, or at least so different in degree from what we have done in this area as to be different in kind.

As for middle management and middle-level engineers, the routine decision-making, information-organizing, and design activities which now occupy them will be--already are being--taken over by computers, and personnel supervisory tasks will decrease as cybernation reduces the number of personnel to be supervised.

There is already a growing awareness that, except among some professionals, one may have to change his type of job two or three times in a working career. Conventional expectations about settling down to a lifetime job, or of doing the same thing all of one's working life, will more and more evolve into expectations that what one does, and when one will need to learn another job, will depend on a rapidly changing technology over which the individual has little or no control.

Under such circumstances, new questions of self-identity, when the job disappears or is fundamentally transformed, what happens to the definition of who one is? Work in our society has meant more than income; it has provided psychological meaning for generations of people who have defined themselves and have been defined by their work, whether or not one liked one's work. And it is the basis for the Protestant Ethic regarding the sinfulness of nonwork. This holds both for young people and for their teachers, particularly those lower-middle-class teachers who, as such, express traditional values about work and who constitute the bulk of the teaching cadre in primary and secondary schools. To the extent work changes its meaning in the years ahead, deep questions will arise about the "right" education needed in order to provide a redefinition of the relation of self to work. This is already a problem for older people forced or "encouraged" to retire before they are ready to. It does not follow, of course, that the approach appropriate for giving theological, ethical, and psychological self-definition to the early retired will be applicable to the young.

Of extraordinary importance, some of the most interesting jobs will increasingly be jobs that depend ultimately for their effectiveness on the relationship between individuals. Not sales job, but rather, the kind that involve real rather than pseudo rapport between people; jobs that because of the critical role of human relatedness we either cannot do by machine or do not want to do by machine, such as teachers' aides, clergymen's aides, welfare aides, mothers' aides, and many which have not yet been invented. Just how numerous such jobs might be, with how much status and pay, will depend on the resolution of many questions still moot. First, our society must come to recognize the need for such roles and express this recognition through the bestowal of status. We are beginning to do so as evidenced by the Peace Corps volunteer, the teacher's aide, the neighborhood worker in the poverty program, and so on. But the society as a whole has not recognized the need with a sense proportionate to the actual need foreseen by those looking ahead. In particular, many professions persist in maintaining an egregrous possessiveness about every aspect of their activities and a most unbecoming superiority about the prerequisites for competence which make it exceedingly difficult, often impossible, to establish the needed occupational roles.

An extraordinarily important consequence of what we have been saying about work in the future is that work and education will be intertwined throughout life. For most young people, even today, this is a radical concept. Traditionally--and most parents and teachers still convey this doctrine--a youth hurried up to finish his education as soon as possible so he could get on to the career ladder, or treadmill. Education might end in high school, graduate school, or business school--but it ended and and one was then set for life, usually in a career. What I have tried to convey here is that for more and more people, including those in school now, there will be no more "being set for life," either in one career or without further career-oriented education. Thus, a major change in perspective will be required of youth preparing for careers, for career will have come to mean "work and education," and, for many, career will in fact mean several different careers. This situation will also require basic changes in the educational system. For school administrators and teachers will themselves need further education, in order to be retrained to cope with new substance, new methods, and new administrative procedures. (On this last point, one might dwell on the implications for teaching and school administration of increasingly less age-boundedness in the classroom. Skill level will not be correlated with age, though experience in living may be. Though, young people going on, say in political science, may be far wiser and experienced than their older classmates if they have spent time organizing voters in the South or migrant workers in the California vinyards. Certainly, the classroom and the administrative offices will be more exciting places and more complex and exhausting ones for the teacher and the administrator.)

Of course, the aspiration to and conduct of a career happens in a larger context of activities and values than just those associated with work. Indeed, that context may critically affect one's attitudes toward and choice of work. Here I want to mention two other contextual factors which I believe will play an increasingly important role in defining the environment that one works in: the first is leisure; the second is a sense of political potency, i.e., a sense of being able, potentially at least, to influence the governmental system in the direction of one's interests and for one's interests and for one's protection (at any level from getting a budget appropriation for new curtains in the public library to influencing national policy on, say, Vietnam or environmental pollution.)

By the 1970's, it is likely that the increased productivity from the new technologies; the number of people at all levels being reeducated or updated; the growing tendency toward the more efficient round-the-clock operation of cybernated systems; and the increasing number of older people; will have led to a general trend toward earlier retirement and longer vacations or sabbaticals, with little diminution in the actual number of hours worked per week. Thereby, there will be ever greater numbers of people with large chunks of free time, brought about either by unemployment or by changes in the work schedule.

Leisure--a way of life for which no past experience seems appropriate for our 200 million people plus society--will ever more fall to the mediocre, the partially trained, the partially educated. The very highly educated, the highly skilled, because the demand for them will be ever greater, may have even less free time than they do now. The anomaly is that, for the most part, leisure will come to those who are least prepared to take advantage of it. As of now we simply have no really good ideas for transforming our free time into an occasion for social and personal growth for such a large number of people. What's more, the ideas we do have for leisure use often emphasize volunteer or do-it-yourself activities. And these types of activities might well increase the amount of enforced leisure, i. e., unemployment, for those who otherwise would supply such services for a fee.

Let me make this clear: I am not taking the position that leisure has to be "good for you." I don't hold that just slopping around is inherently bad. But, the point is, our present attitude seems to be that leisure ought to be creative and productive--simply another form of output. Yet we don't know how to make it that way for a very large, very urbanized, population. Nor do we know how to reduce the anxiety about free time which is so painfully evident in the compulsive consumption of things and places which typifies so much leisure activity today. In other words, we don't know how to weave work and leisure together so that leisure is, in whatever form, a means of cultivating and cherishing the self.

When I say "we", I am not including everyone, of course, and in terms of the purposes of this conference I am not including that portion of youth who have succeeded in or are actively trying to learn how to cultivate self. They do it through loving, through working endlessly on their hot rods, through political and social agitation, taking hallucinogens and smoking pot, along with other more conventional career preparation activities. And in doing so, some of them are preparing themselves--educating themselves--to have attitudes and aspirations toward careers which will weave together work and leisure. But it is a rare teacher or administrator--or parent--who recognizes that this is what they are doing. On the contrary, these are seen as extra-educative, extracareer activities which keep them from "settling down" to the "serious" aspects of education. I would suggest that these not always happy few may be more in tune with the requirements for career development than most of their peers and adult guides. How then can we learn to arrange the educative environment--including educators--so as to incorporate into the total career preparation experience exercises in self-cultivation for leisure? This will be a major challenge for administrators and legislators who think in terms of "efficiency," and for teachers who distrust in themselves and their students experimentation with a flexible, tentative, and open world.

These remarks lead to my last set of observations about our future complex society with its enormously powerful technologies which will be applied to the transformation of that society. Dealing with the societal problems we will face, and exploiting the competing opportunities which technologies and social growth afford, will require that priorities be assigned. Compared to the potential demands, our skilled resources are very limited: we can't take on everything at once. At the same time that we assign priorities to deal with society's problems and opportunities, more and more long-range planning will be required. And more highly organized action programs extending over many years will be needed to complement the plans. We recognize that we won't get to the moon by 1970 by ad-libbing the space program from day to day. We won't solve our growing air pollution problem or educate for a cybernated world or eliminate poverty or build a sane urban environment by ad-libbing these programs either.

Once national program priorities are assigned and the physical, manpower, and psychological resources are committed, the success or failure of the program may take years to determine. As of now it is quite unclear through what political format this capability to carry out long-range programs will be implemented. Given the complexity of the issues and the long time spans involved, it would seem to require, as Sir Geoffrey

Vickers points out, "either an immensely trustful or an immensely knowledgeable electorate"--neither of which we now possess. What's more, as institutions become larger and their problems more complex, the public relations shield behind which they work will become broader and stronger. Partly because of the vested interests dispensing the information; partly because the technical knowledge possessed by any citizen is miniscule on most matters; and partly because of the ethical and technical complexity of most major issues, what will be communicated to citizens, ostensibly so they can judge their self-interest, will be less and less a representation of all the factors which ought to go into their assessment.

This inadequate access is clearly the case already with defense policy, space policy, and economic policy, for even the intelligent and conscientious citizen does not have or cannot decipher the esoteric information needed to make informed judgments, for example, on the current controversies about the development of new weapons, manned or nonmanned space programs, or the real impact of automation. It will increasingly be so with other policies. In part, the information just won't be provided. In part, there will be no way to judge the validity and sufficiency of the information which is available. More often than in the past one will not know what one should be looking for. Whatever the situation "inside," it will always be possible to obscure it "outside" with a public information program masquerading as unimpeachable information, or a program which claims that there is more to the situation than is understood or can be revealed. This latter claim may be true. But it will be more difficult to find out if it is true, and if it is true, what it means in view of other unknown or unadmitted information. The political scientist and distinguished Washington columnist, Joseph Kraft, makes this observation about the general situation today.

> To apply common sense to what is visible on the surface is to be almost always wrong; it produces about as good an idea of how the world goes round as that afforded by the Ptolmaic system. A true grasp of even the simplest transaction requires special knowledge and the ability to use abstractions which, like the Copernican system, are at odds with common-sense impressions. Without this kind of knowledge, it is difficult to know what to think about even such prominent matters as the United Nations financing problem, or the bombing of North Vietnam, or the farm program, or the federal budget--which is one reason that most people don't know what they think about these questions. The simple fact is that the stuff of public life eludes the grasp of the ordinary man. Events have become professionalized. ("Politics of the Washington Press Corps," Harpers Magazine, June 1965, pp. 101-102)

How, then, do we educate run-of-the-mill citizens for membership in a democratic society, given the enormous complexity of social issues and the increasing abstruseness of the techniques for dealing with them? What, indeed, are the appropriate political roles for citizens in such a society? How does one educate to make people comfortable with, sensitive to, and aware of complexities? How do we teach people to understand their relationship to long-range planning? (Our tradition has always been short-range or no-range planning.) And how do we teach people to be comfortable with, indeed, to embrace, change and the process of change?

This challenge of preserving the democratic processes will have to be met at the leadership level as well. In response to the complexity and scale of social welfare demands, the inexorable expansion of the federal government as the dominant device for social control will be the major factor. New relations between big government and big business will further blur the distinction between the two--and further increase the opportunities for rationalizing social welfare programs. The demand will increase for people in government and advising it who can deal with complex issues scientifically and technologically. Thus, we can expect an increasing portion of people who influence the direction and style of decisions and policies in government, federal and local (whatever "local" comes to mean), to be professionals, technicians. And given the nature of their career-oriented education, most of them will have had at best little more than ritual exposure to those recorded experiences of mankind and to their interpreters which help to make men wise, humble, and sensitive.

In this atmosphere, increasingly, the proposed solutions to social problems will be statistical solutions. Partly because the needs of such large numbers of people lend themselves to socially good statistical solutions, and partly because the techniques for defining as well as solving those problems will depend so much on the "world views" of the social technicians. This is very important--more of the people who will be turned to for advice in defining what the problem is, as well as how it can be solved, will be those who will define the problem (because of their techniques) as a statistical problem. Already some planners are tending to place undue emphasis on those aspects of reality which the computer can deal with just because the computer can do so. The individual--the point off the curve--becomes an annoyance.

Yet, we are going to need more planners who are able to use these technologies and can grasp larger social issues and work with them in a broader context. The question is how to provide the education for this kind of career. It is going to take more than knowledge of computer techniques and the behavioral sciences to do this job both efficiently and humanely. For increased rationalization also means there will be increased "guidance" or "manipulation" of various segments of society. If the technology for doing so exists, it will be used, given the persistence of power-seeking motives. And what's more we will need to use it, since the necessary social changes will not come about if the people who are to be affected do not understand and desire them. Thus, the pressures, the good moral and ethical reasons, for using population influencing techniques will increase, and the potency of the technology for doing so will also increase. Thereby, there will also be a mounting danger to the democratic tradition and the Judeo-Christian tradition--unless we learn how to educate to protect them.

For both the leaders and the led, what do we do, then, about incorporating such considerations into curricula? Do we turn our backs on the kind of career "education" which includes clarification of the ethical setting for any career and concentrate instead on training for work and play, thereby encouraging the student to ignore the meaning of a career beyond private gain and private satisfaction? This is much easier and safer than putting up with and encouraging political experience and other modes of education for social responsibility, which must carry the classroom out into the community and the community into the classroom. But we do take this path, I think it can only lead to the destruction of the very goals inherent in the motives that have convened this conference.

Let me summarize. The headlong pace of our world and the enormous potency of our technologies mean that the years ahead will be full of exciting opportunities and terrifying threats. Self-images, preferred life styles, status, and security, will all be subject to change. What we will need as much as skilled people will be wise people, humane people. Under these circumstances, if career planning and the techniques for accomplishing career development, such as curriculum change, are in fact effective, it will mean that not only will youth be transformed in the process, but so, too, will those adults directly and indirectly involved in the process. Unless we are prepared to change our selves and our institutions, unless we are prepared to risk status and preferred perspectives in order to prepare youth to embrace tomorrow's new opportunities and cope with its threats, we will fail. If we try to change them, to ask them to prepare themselves for a risky world and don't make the changes in ourselves which are necessary to back them up, the sensitive among them will become cynical and the unperceptive will grow into fat and happy objects of manipulation, and the very vision we seek to make real through such efforts as this conference will twist into a nightmare. If we risk along with the young--partially by inviting them to risk along with us--enough of them, not all, to be sure, but perhaps enough will grow into careers infused with enough self-respect and social responsibility to make a sufficient reality of our vision. Perhaps then, they will be inspired to take the next round of risks to prepare their children for--who knows what?

WORK AND ITS MEANING IN AN AGE OF AFFLUENCE

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Sigmund Freud has said that work is man's link to reality. What happens to that link in an age of affluencd when old incentives cease to be adequate? What happens when the nature of work itself is revolutionized by the new technology of automation which has untold consequences? If the application of cybernetics lives up to its highest potential--namely, the production of a cornucopia of products with a minimum expenditure of human labor--we shall witness a new day of affluence undreamed of in human history.

In this paper I would like to examine two elements that seem to me significant in the current scene. I am suggesting first, that traditional incentives towards work are being rendered obsolete by our technology of abundance and, secondly, that a reorientation towards reality is made necessary by the new conditions.

Most employers are already aware that the work attitudes of the latter half of the Twentieth Century are far different from those that prevailed at the beginning of the century. The flow of goods made possible in the United Saates by technology has ended the incentive power of hunger--the original propulsion towards work. The Biblical mandate, "By the sweat of your brow shall you earn your bread," is no longer true. The First Industrial Revolution is finishing that process and making it unnecessary for man to push pencils and shuffle papers in routine jobs. In the face of plenty society could not allow men to go hungry, even though it tolerates poverty, a state of affairs in which men are permitted to be wretched but not to starve. The welfare state--with its relief, its governmental social security, its minimum wage regulations, its privately established health, welfare and pension gaining--has blunted the cutting edge of hunger as a weapon to force men to work.

The new technology, with its promise of even greater abundance to come, has already led serious-minded economists to speak of a national guarantee of at least a minimum standard of living. Even conservative ecomonists are talking about a "reverse income tax" under which those of us who file returns showing less than a given income--say, $3,000 a year--will be entitled to a subsidy from the federal government. It is a measure of the revolutionary sweep of our times that a conservative economist like Dr. Milton Friedman, one of Barry Goldwater's advisors in the 1964 campaign, advances this idea, while a liberal economist like Leon Keyserling opposes it on the ground that it will impair the incentives needed to maintain full production. Technology will decide the question. But however it comes out--whatever the economic devices we use--the prospect of abundance seems reasonable enough.

If I put aside the question of how society can guarantee to all its citizens equal access to that abundance, it is not because I consider the question unimportant or incapable of solution. I concentrate rather on the question of what happens to man, his attitudes, his understanding of and relationship to work, because that question will remain with us regardless of what the economists propose. For some time now, man's outlook has shifted in a uniquely twentieth-century direction. Our way of life is oriented towards leisure; life is no longer centered on work. Once the function of leisure time was to refresh the individual--hense the origin of the term recreation--so that man could recreate the resources needed to return to his tasks; today, the major function of work is to make possible leisure time. The nature of tasks has changed as a result of the division of labor, and goods and services are more the product of the machine than of human effort. Pride in craftsmanship, emotional involvement in the task itself, the proprietary feeling of the artisan--these are rapidly fading away and will disappear entirely for millions of workers as automation advances. Man's need for achievement may be satisfied less and less by his work; it may be fed increasingly by his leisure-time activities.

Once religion provided an urgent motivation to work. Men believed that in their daily occupations they fulfilled the ultimate meaning of their lives. Whether they symbolized it by a hagiology which identified the craftsman with a specific saint, or whether they expressed it by the concept of "a stewardship of talents" as did the Puritans, or linked their work and worship, as did the Hebrews, by using the same term avodah to represent both, they did indeed find in their economic activities an identification with life's basic meaning.

But this has changed. Among the first to recognize it was the young Karl Marx (to be distinguished from the older, materialist Karl Marx), who perceived as one of the principal products of the First Industrial Revolution man's "alienation from his work." Eric Fromm has elaborated on this aspect of Marx's early thinking, namely, that "the place of all physical and mental senses has been taken by the self-alienation of all these senses, by the sense of having. Private property has made us so stupid and impotent that things become ours only if we have them, that is, if they exist for us as capital, and are owned by us, eaten by us, drunk by us. We are poor in spite of all our wealth because we have much, but we are little." Fromm himself, while still urging an increase in the production and availability of material things, notes that as man becomes alienated from his work he yet enjoys its benefits. "Indeed," says Fromm, "it seems that for the first time in history, the vast majority--and soon all men--in the Western world will be primarily concerned with living, rather than with the struggle to secure the material conditions of living. Thus, as man no longer finds it necessary to struggle for material things, the central focus of his life must shift from work towards other ends."

This is not to suggest that the phenomenon of work will disappear. Nothing that has happened yet in automation indicates that the time will come when perpetual motion machines will make it unnecessary for men to concern themselves with the problem of production. Nature will still require of man that he earn his keep, but it will no longer snap the whip like Pharaoh's overseers supervising the pyramid builders. The Twentieth century view of work, in an automated society, will be as different from the Nineteenth Century's attitude as the latter was different from the slave's attitude in Pharaoh's day. Since work, however reconstituted, will not disappear from human history even in an age of automation, it follows that we must still be concerned about the existence of incentives. But in the presence of affluence the old incentives will no longer work, or will work less effectively. Substitutes will have to be found for those that disappear; those that survive will have to be supplemented or will have to receive a new infusion of vitality.

At this juncture it is difficult for us to see what those new incentives will be--as difficult as it was for early Nineteenth Century man to anticipate the kind of economic incentives that would eventually emerge from the industrial revolution and that today can be read in any standard union contract, with all its so-called "fringes". Yet it should be possible to discern the general direction in which such incentives will be found.

As personal economic incentives diminish in intensity, psychic needs will come to the fore. As individual material needs are met with increasing ease, social responsibility will have to become a more persuasive motivating factor. The growth of population which required the increased efficiency in our production methods that only automation could achieve has multiplied the complexity of social organization. The new incentives will have to derive from man's realization that he stands in a new relationship to society.

I am afraid that this awareness can come only out of a deepening social crisis. The function of crisis in history is not only to end the old, but to begin the new. Crisis is both the undertaker of the past and the midwife of the future. Without it, there would be no incentive to erase the evil in our man-made institutions or to extend the good. A social crisis is merely a situation in which the accumulated errors of the past and the advent of new conditions compel us to alter out established ways.

Specifically, the current crisis involves the problems of transition as we move from the First into the Second Industrial Revolution. The transition, of course, will be made. The more lasting problem is what will happen to man when he has found his new place in the automated structure. Will the time he spends on the job be filled with more or with less meaningful activity? The processes of the First Industrial Revolution brought about the phenomenon of alienation from one's work, as the individual found himself making only a part of a product and not the product itself. Where once he was the master of the process, he came to be only a step in the process. The removal of the human being from the end result of his work, his involvement only with a fragment, was brought about by the application to production of the principle of interchangeable parts. It made for efficiency, but it reduced the significance of the individual in the eyes of those around him and in his own eyes.

With the advent of automation, this alienation is bound to increase. More and more, the production worker whose hand produced the goods, whose craftsmanship created the product, is being replaced--in production as well as in the office--by the white-collar worker, who does not handle materials but pieces of paper. The distance between the worker and his product is therefore widened, and the sense of personal contribution to the product is further undermined. Machine-intelligence is substituted for human skill. The greater portion of those employed share none of the glory of the programmer; even the highly-skilled among the employees serve as maintenance men rather than direct producers. Under these circumstances, if the vessel of working time is to be filled with something of value to the individual, new concepts of meaningfulness will have to be evolved.

The problem, of course, is not new, but the circumstances in which it must be solved are new and therefore difficult. Nor is the problem confined to working time; it is found in all the processes of our time utilization, whether we are concerned with earning a living or functioning in a political framework. It can be resolved only in terms that go deep into the character of human individuality and that define the structure of our whole human value system. The most significant aspect of the technological revolution of the past two or three decades is not what technology has done to the production and distribution of goods and services but what it is doing, and what it is capable of doing, to the human being himself.

What is required now is a restoration of the individual's personal involvement in the tasks he performs but with a new understanding of their nature. For a man no longer works only for himself. Indeed, the primitive needs of the individual in an industrial society can so easily be satisfied that no appeal on that level can call forth his effort or excite his dedication. More sophisticated needs are operative, and they go beyond the individual. They relate to the survival of society, without which ultimately the individual is lost. In our American society, the only reason that can justify greater individual exertion is the need of society itself. Just as the family--a larger unit than the individual--could spur men to greater individual effort, so now the awareness of the larger community will have to motivate men and women in their shops and offices. The knowledge that our participation in economic life produces results that ripple out to the far corners of the globe should provide the new incentives needed to compensate for those that have been weakened or rendered obsolete.

So far there has been a reluctance to spell this out. Steeped in a tradition of so-called individualism, we have insisted that economic activity must be inspired by individual--that is to say, narrowly selfish--interest. We do not acknowledge that individual fulfillment comes primarily in community, and we do not yet believe that the larger the community the greater the opportunity for fulfillment. We have not known how to contend with the problem of size because we have permitted it to bring about depersonalization. The challenge is to enlarge individuality by learning to live in a larger sphere of activity.

Even in the world of automation, the human being is still present--to provide the programming, to supervise the machine when necessary, to provide maintenance, or simply to push the buttons. And so long as the human being is on the scene, he must be taken into account. The machines may be able to operate for quite a while even if the employee goes out on strike, as some unions, like the Communications Workers, have discovered, and the strike as a labor technique may ultimately become obsolete. But our situation is made more serious when the worker has no recourse. Society cannot afford a frustrated, devitalized population, consisting of people who spend their working time in a state of alienation and who carry it over into their leisure time.

Moreover, far from being diminished, the individual still plays a part in our time because of the very complexity and interdependence created by our increased numbers and the technology of affluence that has accompanied size. Now all can suffer at the hands of one. The mind stumbles in the presence of the awful fact that one individual in a plane can push the button that will release the nuclear holocaust. One man in an automated oil refinery can, by malice or by simple neglect, bring the whole process to a halt; fantastically expensive controls are needed so that other men, and subtly fashioned equipments and processes, may guard against such an event. A few thousand workers in a metropolis of 8 million can stop the transportation system from operating today; tomorrow, another few thousand can with equal efficiency shut down the office buildings and bring commerce to a halt by refusing to deliver heating fuel; the day after, the sanitation employees can refuse to work and suffocate the city in its own garbage.

The more of us there are, the more we are dependent on each other. We survive as a society only because, in at least this compartment of their minds, men understand that the polity depends on each man exercising responsibility. William James, long before this interdependence had become as tight as it is now, wrote: "A social organism is what it is because each member proceeds to his own duty with a trust that other members will simultaneously do theirs. A government, an army, a commercial system, a ship, a college, an athletic team, all exist on this condition without which not only is nothing achieved, but nothing is even attempted."

Today, the changing nature of work calls for a redefinition of our relationship to society and its instrument, the state. The outstanding characteristic of the way work is performed in our day is the requirement of organization. In the Stone Age, man was close to his raw materials and could survive without complex rules and regulations. As we moved into the ages of metal commerce had to be developed to bring the raw materials across great distances; specialization began because skills that were not universal had to be brought into play--the skill of the smith and the art of the designer. A new relationship was born among men, resulting from the interdependence that specialization created. Isaiah dsscribed this hard economic fact in prophetic terms when he said: "They helped every one his neighbor; and every one said to his brother, Be of good courage. So the carpenter encouraged the goldsmith, and he that smootheth with the hammer his that smite the anvil, saying, It is ready for the soldering: and he fastened it with nails, that it should not be moved." Specialization had taken place. Each would not only have to do his own task, but help his neighbor carry out his.

Man's aliénation from himself, a reflection of his aliénation from the society in which his self must exist, is furthered today by the idealogy of a business system which clings to the individualism of a pioneer community long defined to reconnize the importance to our selfhood of the encouragement that the goldsmith must receive from the carpenter, however remote each craft may seem from the other.

The challenge now is to find a substitute for the incentive power once exercised by hunger. There is still a desire, of course, to move higher on the economic scale, to receive a bigger income year by year, to enjoy more and better goods and services, to move up from a Chevrolet to a Buick, and with no great frustration because you're not likely ever to reach the Cadillac."

The annual rise in our standard of living, however, is almost automatic; it derives not from the increased expenditure of energy by the individual in the course of his working time, nor from hard-won gains in personal skill; it comes from the increased yield that technology creates. The merit increase has been supplanted by the length-of-service increase, to use the language of the personnel administrator. Or to use another personnel term, we are reaping the benefits of an automatic progression policy in the nation's system of wage and salary administration. The annual increment is no longer confined to civil service and to education; it is generally accepted in industry. Every employer goes to the bargaining table today with the foreknowledge that he must give his employees some improvement over the terms in the preceding contract, without regard to whether the individual employee will give improved performance in return.

Our social policy is based on the premise that both management and labor are entitled to share the benefits of our rapidly advancing technology. This policy was first formally articulated in the "annual improvement factor" which Alfred P. Sloan wrote into the General Motors contract of 1948: "The annual improvement factor provided herein recognizes that a continuing improvement in the standard of living of employees depends upon technological progress, better tools, methods, processes and equipment, and a cooperative attitude on the part of all parties in such progress. It further recognizes that to produce more with the same amount of human effort is a sound economic and social objective."

Of course it is a sound economic and social objective. But it introduces a startling new element in the problem of motivating men in their jobs. Once increased reward depended on personal effort--perhaps harder work, perhaps up-grading one's skill, perhaps ingratiating one's self with the supervisor, perhaps playing office politics--but nevertheless personal effort; today increased reward depends primarily on impersonal factors--the increased efficiency and output made possible by technology, by better marketing methods, or by the growth of the company due to the general national prosperity. All the employee is asked to do is not to rock the boat.

Now though it may be economically rewarding, this can hardly be a psychologically rewarding experience for the worker. The ancient seers warned that man cannot live by bread alone, and their modern counterparts, the omniscient psychologists, tell us that in addition to bread man must have self-esteem and status, a sense of worth, a feeling of purposefulness in what he is doing. Once the targets of personal purpose were well-defined: for the Puritan in early America, purpose and meaning were found in clearing a patch of land in the forest; thus one made a home for himself and his family, and at the same time carried out that "stewardship of talents" which was the religious obligation of all men. The close link between religion and the industrializing process has been carefully explored by such studies as R. H. Tawney's "Religion and the Rise of Capitalism". But the religious link has long since been broken by the secular society which industrialization has created. And now this new secular society must find an ethos if personal effort and human involvement are still to function as instruments for satisfying psychological needs and profiding mental--and if you will, spiritual--health. For regardless of what automated production can do for man's physical well being--indeed because of what automation achieves for him in material affluence--man faces more keenly than ever the problem of purposeful effort. How shall he now fill the vessel of his allotted hours on earth? What meaning can he find in the new world around him?

The answer, I suggest, will be found only if our education and culture are capable of persuading men that they are not isolated islands but truly a part of the mainland of society. Brought up to believe that work is primarily an instrument for protection against personal deprivation or a me ns of self-aggrandizement, our generation and the generations immediately ahead must come to look upon work as the link between ourselves and the most important fact of our reality--namely, the larger social group, that is to say the nation and indeed the world. In the swirling process of social change, society is responsible for economic and psychological stability. The most persuasive force that can make the individual accept this reality is the very worldwide stockpile of abundance, unless we can harness technology to the needs of the spirit, the lights of civilization will go out. A new balance must be struck between the insular interests of the individual and his ties with the mainland of society. He can never return to the days of the artisan who started a task and found satisfaction in the completed work of his hand. He is destined henceforth to make only a part, but he himself can belong to the whole.

WORK AND THE PRODUCTIVE PERSONALITY

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The newborn child does much more than respond reflexly to fresh stimulation. To be awake means to be active, seeking and holding the things that act upon eyes, ears, and skin, resisting, grasping, and pushing against the environment. With the package which we call life there is activity; and changes ensue in the perpetual pull and push of child and environment.

Potentialities for activity become rapidly differentiated. Many a philosopher has undertaken to define the difference between work and play. But in the beginnings, the reaching, the manipulation, the drawing of objects to the mouth, and soon the protesting cry or joyful smile or laugh, can be conceived either as work or as play. It is out of this matrix of continuous activity that learning begins, learning as growth goes on and as new potentialities become evident. Some of these activities are valued by the grown-up world as leading to good results, and if there is much effort and a considerable productivity in consequence, we call this work and are proud of it. We make it indeed a major part of life.

There is, for Freud, a fundamental question of personal adequacy conceived in terms of adequacy in love and in work. Work fulfills one's identity, as Erikson has taught us. Carlyle tells us: "Blessed is the man who has found his work." Work is a large part of life, an aspect of life which can bring fulfillment as deeply as can the joy in love or esthetic appreciation, or the delight in use of any and all of the equipment that makes us human beings. Work cannot be separated off as a tougher or more difficult part of life, a part that has no intrinsic value of its own, but has to be paid or rewarded to take on meaning. On the contrary, I shall begin by defining work as the exercise of potentialities, and shall regard the effortful, the laborious, aspects of work as merely those which catch the eye of those who are sorry for the worker, or of those who wish to punish or reward him. Work is basic biology. It becomes structured insofar as such activity of an ordered and disciplined sort not only gets more done, but is intrinsically more fulfilling. It is not the punishment aspect, but the fulfilling aspect that I would wish to stress.

In contrast to this biological view of play and work there is a legitimate socio-cultural view of work, and of work potentials. At different times and places men applaud or abhor physical labor. They may give honorable status to all work, or on the contrary, they may make some types of work degrading and others noble, or they may even regard all work as below human dignity and leisure to enjoy the arts or to think philosophically as a fulfillment towards which a working class cannot aspire.

An especially brilliant analysis of the varying socio-cultural modes of evaluation of work appears in the contributions of Max Weber and R. H. Tawney. Weber, in "The Protestant Ethic and the Spirit of Capitalism," pointed out that since the Protestant Reformation there has been a clear, well-defined tendency of Protestantism to emphasize the importance of work as a device for assuaging the guilt which we miserable sinners experience through our intrinsic worthlessness; as we work we may be prospered by God, and the fact that we are prospering removes the fact that we might be among the eternally damned, for it is through the success of our works that we apprehend our status among God's elect. Tawney developed the theme that it was among a special group of workers, the midlle-class shopkeepers and merchants, that Protestantism arose, rather than among the land owners and the warriors. The rise of capitalism depended, in part, upon the sense of worth in the act of working. One was everywhere reminded of the parable of the talents: He who hid his talent in the ground had no worth; he who could multiply what his Lord had given him found favor in his Lord's eyes.

Already we begin to see a paradox in the Protestant ethic, for we know that in unskilled and poorly rewarded work, as in the labor of the small farmer, fisherman or mariner, there was no such worth as in the work of the merchant; and on the other hand, that somehow the conception of work in general was achieving a certain nobility. The very era in which individual competition was elevating the successful merchant among his fellows was the era in which Robert Burns was writing: "A man's a man for all a' that." There are multiple and conflicting levels of worth assigned to work in our Western tradition, and the plot thickens as very complex systems of ideals about the worth of various kinds of work get built into our American tradition.

Much, of course, has remained of the older tradition which declared that work was inherently symbolic of a low level of human value. The classical expression of this gentle, cynical, and subtle analysis is Veblen's "Theory of the Leisure Class." Historically-minded as it is, Veblen's work reminds us that in the age of the warrior some members of the warring classes may not only be free of all ordinary work, but may settle into complacency as those worthy to enjoy leisure. Those who have grubby work to do are without honor; those who have won the means of subsistence through their own or their ancestors' predatory activity have been able to order society in such a fashion as to look down, pityingly or scornfully, at those that work. There is still a very considerable touch of the Veblen motif in our life today, especially when it takes the form of ostentatious demonstration that we do not need to work. (One may remember the tapering fingernails of the ancient Chinese which showed plainly that one could not work, or the bound feet that one could not even walk, or in similar decorative touches which show that one could not really work no matter how much one might aspire to do so.)

In the Athenian democracy free workers had a status expressing their skill, but it was to the warrior that the main glory went. Most of the population were slaves, infrequently able to buy their way, through their work, to the category of the free. Men of superior power and position regarded work as beneath them. As James Harvey Robinson pointed out, there was no possibility that science would be discovered at such a time and place, since puttering around with things, shaping and remaking them, and even devising instruments to look more closely at them, was beneath the thought of a free man. It was only after the decline of the great city states that the Greek spirit of inquiry, throwing off this fear of labor, settled down to the works of Archimedes and the Alexandrian astronomers.

In Rome, too, and in much of the Western history that followed Rome, work was of low status. But it must be remembered that in the monasteries medicine, astronomy, architecture, and many of the nobler crafts were developed, the monks often being the leaders and the peasants the followers in the prosecution of these labors. The guide who took us through Mont St. Michel explained, as his eyes swept the land beyond the schoals and beaches, "The monks were the architects, the peasants the workers; without this kind of slavery the work could not have been done." The guild system was, of course, a cultivation, even a glorification of skilled work. The commercial revolution turned many land owners and many artisans into merchant capitalists, the big rewards going to the shrewd entrepreneur; and the accelerated pace of the industrial revolution in the Nineteenth Century enabled thousands of high-level craftsmen to become entrepreneurs, as did for example the Josiah Wedgewood, the potter, father-in-law of Charles Darwin, to whom we owe the preservation of many of the magnificent Greek ceramic models.

From each change in the definition of work came, of course, a new kind of personality, specifically a new ego, a new definition of what it takes to work well, what it takes to make a valuable product. Superior skill means superior status, and in a money economy, superior income and economic power. With increasing sensitivity on the part of the maker of fine things comes also increasing appreciation on the part of the consumer. The guildsman appreciates and buys the superior work of another guildsman in a related field. Spiraling values of increasing respect for certain kinds of work therefore appear, until a mass production era, again by destroying skill and the worth of skill, debases both the handicraft and him who makes it.

This trend reinforces the feeling, already noted, that productive work has ethical and even religious value. The Puritans, having tended at first to be afraid of beauty as of the work of the devil, found beauty coming in, so to speak, at the back door, in the form of beautiful works, as in the new translations of the Bible, and the new poems and hymns of the Seventeenth and Eighteenth Centuries; but also coming in through an appreciation of textiles and jewelry as fine self adornment became legitimate; and the little white Protestant Church, repudiating the grandeurs of Gothic architecture, became in time, as you know.--if you know your New England well--exquisite representations of simple, sound, good taste which it took good builders, good carpenters; and later on, good bricklayers, good iron-mongers to carry to success. The ego of the builder and of a worshiper strives to become worthy of the presence of God. Just as you wear your Sunday best, your "Sunday-go-to-meeting" clothes because anything less would be an indignity to God, so labor expressive of good taste, sense of proportion, and even charm and refined and delicate expression begin to ennoble all but the crudest and least skilled aspects of work.

Wherever the barriers to movement from one class to another are firm, as was the case for example in the rural South for Whites as well as for Negro slaves, work could be debasing; but wherever such barriers were softened, as in the commercial and industrial development of East and Midwest, a kind of work could often be found which lifted status and self respect almost instantly. In one lifetime a man could pass from a very humble to a very respected position sometimes indeed through buying and selling, but often through the skills of the higher handicraft levels and especially through the skills which are representative of the professions. The ego dynamics of all such men were structured in terms of the worth of productive work, not simply in terms of family or landed possessions; and with ourselves as David Riesman and others have shown, to be without work is often equivalent to being without honor.

But look at these paradoxes to which we seem to have been committing ourselves! Work is proof, one may suppose, that one has no great possessions, no great power, no great tradition behind one. One works because one must. "In the sweat of thy face shalt thou eat bread." The harder, dirtier, and longer the work, the more it tends to mean dishonor. At the very same time, and in the very same human community, work has been a symbol of successful discovery of a way of being productive, success in training for the task, success in carrying it out, and success in the recognized worth of the product in the eyes of other men for whom it has use. The conflict is inherent, not accidental; and the children who grow up in our society are touched by these varied aspects of work. We are a part of all that we have met. The Greek and Roman, the Medieval, Renaissance, the commercial and industrial eras all have left their residues, their definite sedimentary deposits in our minds and hearts.

The conflict is worse for boys than for girls because, although the girls are touched by all these same forces, much of the work of girls and women is not called work, but is described in very mixed and complicated language having to do with home-making, care and protection of the young, participation in community activities, especially religious and educational activities. The descriptive units of work are hard to define. One finds it difficult to measure home-making and the protection and guidance of children in terms of the dollars and cents for the hours and minutes which are characteristically assigned to masculine labors, and of course, the comparisons between women in terms of their success in these responsibilities are very much more difficult to work through. Pride and shame with respect to fulfillment, or failure to fulfill one's task as a woman depend to a large degree upon involuntary matters like good looks, health, charm, patience, subtlety or intuitition in perception. The very language of work seems inappropriate. It is likely that conflict over the possession of attributes such as these can be as painful as conflict about failure to obtain what a man regards as honorable and rewarding work.

To stick to current English usage, and our ordinary ideas about work, there is no doubt that these particular stresses are acute as masculinity becomes defined. That is to say, the differentiation of tasks, duties, and modes of self fulfillment in terms of sex will mean that during those years when children are learning sex identity, learning what it is that boys appropriately do, and that girls appropriately do, one develops an ego that is oriented around quite different conceptions of one's relation to work, and consequently quite different conflicts and stresses regarding success in work, pride or humiliation in the kind of work that one's father does, and eagerness or apathy regarding the work patterns for which one finds oneself being prepared. The studies of the attitudes of middle-class and working-class children towards their own future vocations reminds us that the conception that there is a real choice among types and grades of work, and the real possibility of preparing, through patience and devotion, for an expecially high level of work is characteristic of middle-class children who see these ideas and ideals in their own parents. It is not simply that the working-class child is less likely to have a model at home or across the street which he can emulate with delight; but also that he simply does not value life primarily in terms of work status. He reveres men who are strong, skilled, quick, courageous. He is sensitive to past and present heroes with whom a tough or even violent capacity for a rugged solution of a threatening situation means far more than the steady locomotion towards a remote and honored goal. In other words it is not just that the working-class child has less chance to make an ideal center for adult life. He is not likely to organize his values in such a way that work prominently faces him day in and day out, year in and year out, as he moves into an adult role. In Lois Murphy's studies of children in Kansas--children who have been studied from their early years to their present age of sixteen--there has been abundant confirmatory evidence of the point made countless times before, namely that many very able children simply do not think of going to college or think of holding any position higher than that of their fathers at a semi-skilled or unskilled level even when the opportunities exist, and an occasional persistent and energetic parent may encourage such an effort. I am agreeing that often the lack of planfulness on the part of the working-class child is due to the lack of models, but even when the models are conspicuously and constantly held up they do not necessarily work; and the reason, if I may put it crudely and simply, is that the ego often is not there. The conception of life as built around successful work is one that has to be built in by steady indoctrination over a long period, and if this indoctrination is not available, it will ordinarily fail to appear.

We have stressed the role of conflict in attitudes toward work, particularly the mixed pattern of ideas in the middle-class world in which work is somtimes ennobling, sometimes debasing.

Let us look more closely at the word productive, and at the conception of productive work. What is it really that makes one kind of work productive, and another merely something to be gotten through, a sort of fifty cents an hour babysitting or minding the store when neither the children nor the store have any great meaning for us. Productivity lies, I think, in three things: 1) the intrinsic value of the thing produced; 2) its enduring quality, the length of time the product will continue to have meaning for us; and 3) the originality, newness, pioneering value of the product as something which is not found growing on every tree, but contributes a new idea of a model for the community or the race.

In a new society such as ours, there has been enormous emphasis upon productive work as contrasted with just work in general. To split rails was good if it meant new arable farmland; to fly a kite was good if it brought down electricity for new industrial tasks. A number of studies have been made of the attitudes of children and youth towards work of different types, with engineering and professional skills usually at or near the top, with semi-skilled industrial operations in the middle, and with just heavy, raw, unskilled or repetitive tasks at the bottom. The pattern seems to be just about the same throughout Western society, and although some of the early studies in the Soviet Union found children responding in terms of the great dignity of lower-level work tasks, it appears actually that both the monetary and the prestige rewards in their industrial society are very similar to those in ours. In fact there is much to suggest that industrial man is pretty much the same kind of animal wherever he has time to work through the inevitable ego transformations that I have already mentioned.

A few moments ago we made the distinction between work as honor, and work as a penalty, that is, either a penalty for wrong-doing or a penalty for simply being unfavored, ungifted, left out. The problem takes on a new form when, with industrial development, and especially with automation, there is less and less left to be done at the crudest work level. Not only the great unemployment problem, but the great problem of the debasement of work, and of the human dignity that goes with it, lies in the fact that there are more and more people available to do what calls for fewer and fewer people; that is, in general, as not only the utterly unskilled, but even the semi-skilled are found to be replaceable. A Detroit engineer explained to me that when the middle-speed computers came into the city in connection with the automative industry, the city could reel and totter, but could absorb the change, but when the *high-speed* computers came in, men went out of work by the thousands, and no permanent machinery for absorbing such excesses of workers, such supernumerary toiling hands, has been devised. The very thing that you as a worker were proud of at your semi-skilled task is something which sheer physical operations can do better than bone, muscle, and sinew operations.

It has, of course, often been pleaded that the "service occupations" can keep pace, and more than keep pace with the outmoded manual operations; that there will be more hostesses, receptionists, and entertainers as there are fewer dishwashers, bolt sorters, or textile operatives. This would be a very large point to try to prove by extrapolating from known trends. In the mean time automation is particularly damaging to the work aspirations of the lowest economic levels including most of the Negro population of this level. These are the groups among whom clear and steady work ideals have been least clear and meaningful. The self image for them is just not a work image. It is an image organized around many other things in life than work itself, and though work may be hard, it is not regular, and though its economic reward when present may seem considerable, its prestige and status reward tends to prevent its getting into the center of the self image where it can control the activities during the time when one is preparing oneself for work.

I think the profound impact being made by two recent studies of work can be viewed in these terms. I refer to John Gardner's studies of "excellence" and Robert White's studies of "competence." These are vivid and compelling descriptions of the joys and values of effective effort towards personally and socially valued goals. It is possible, Gardner argues, to achieve excellence in a democratic society. Though the word excel may mean to be preeminent, it is possible to derive delight from the quality of work done, and derive honor from competitive success without humiliating others and without limiting the opportunity of others, on other occasions, to achieve their own form and style of excellence. White develops the theme that there is an intrinsic need to use the equipment, the potentials that we have, almost as in the "instinct of workmanship" of Thorsten Veblen, Hartmann's "conflict-free ego spheres," and the epistemic curiosity of D. E. Berlyne. There is an intrinsic human delight in using higher order equipment, just as there is in using the simple anatomy and physiology with which we are born. We love to think, We love to work with our heads. After several decades of experimentation with animals on the assumption that they had to be motivated through their visceral needs, given a pellet or a dish of bran mash for each "right" response, we have discovered with a great bang in recent years that they will solve problems for the fun of it, and often leave the food dish piled high to one side while they outwit this baffling problem that must be solved. We did not look much for this in man until it had been shown in monkeys and even in rats, but the automomous delight in using one's brain has become respectable again as a research problem.

This could even be related to the technological revolution that we have been considering; it might even prove to be possible to get sustained research done on the curiosity motive, the motive of thinking for the fun of thinking. Now that thought has become so fundamental, so central among the industrial needs, as various raw materials shrink in volume, and various baffling problems of getting along together on this planet bewilder and stagger us, we may find that brains rather than blood represent fundamental motives, for example, motives in relation to the act of working. I sympathize with Karl Buhler's ideas on function pleasure, and believe that this new excitement the love of intellectual work is a variant upon the basic function pleasure idea, the idea that whatever we have, just by being human, is in itself intrinsically a source of motivation, and that instead of extrinsic rewards for what we do--pellets of food or the nod of social approval--we shall find it possible to make work itself intrinsically rewarding, and that this is where most of the solutions to our problems lie.

In our kind of society work at a dignified level can become an ego center, and in fact it usually does; and intrinsic satisfactions as well as extrinsic rewards for thinking as such can come nearer to the top of the hierarchy. I am not saying that they should, or they must necessarily become the center, but I am saying that to upgrade the value of intellectual work is one of the great central problems of education. It is not very much like the ideas held up to disdain in Aldous Huxley's Brave New World, or the ideas set up in Plato's Republic in which people are born to and trained to different levels, with vast gulfs separating one level from another. I am not pleading for an eternal disjunctive relation between types of work, On the contrary, I am pleading for a general recognition of the dignity of work, the frank recognition that intellectual work is worth more and definitely needs more compensations than have been given to it, and the implied conclusion that everyone needs to be rewarded for whatever intellectual competence he has, so that he gets both the intrinsic and the extrinsic satisfactions that go with rewarding work.

I believe that the ideal, "to each according to his needs; from each according to his ability," though not absolutely fulfillable, is still a working possibility from which it would follow directly that social rewards would be arranged in terms of the productivity of the individual relative to his capacity, and that variations in his productivity, from year to year or from phase to phase in his growth, could be given various degrees of social reward. In other words, the indiviaual could pass from a lower to a higher level of productivity by virtue of the rewards given commensurate with production. This would mean to some degree measuring a person according to his own standard rather than pitting the weak against the strong, to inevitable relative defeat all along the line.

This would push us in the direction of the concept of "working to capacity", and that would inevitably follow if external rewards are the only ones involved. Fortunately the balance is corrected, as there are also the intrinsic satisfactions from work, to which I have given so much attention. What may be under-achieving from the teacher's or community's point of view may be a period of finding one's way, groping in the dark releasing inner potentials, or the sheer need to wait until a growth spurt chimes in with the external pressures of the time.

But how can productivity of these many types be evaluated on one scale, one common dimension? It is not only that society has been making many measuring scales in terms of prestige, power, money, special privileges, exemption from threats and difficulties; it is also that the inner ego organization itself is manifold and complex. I may, at the same time, respect myself for the fine work I am doing, and be aware that it it not really as fine as it appears, for my standards are flexible and--thank the Lord--capable of changing.

All that we have said so far implies the achievement of static standards which become a straight-jacket if they are rigidly constructed. Ideals like excellence, complacency, good work well done, are marvelous when they are flexible and leave growing room for new kinds of values. There will certainly be conflict between different norms, and there will certainly be multi-level styles of evaluation. There will certainly be not only different social classes and different cultural groups, but even within the individual there will be different kinds of appeals to good work, different ways of accepting these appeals, and different kinds of satisfaction from different kinds of work. A person can be organized around his work, and most people in our society are likely to be organized in this way. I would plead, however, for a certain diversity, or as William James said, "pluralism" in work norms and work styles. Along with the disciplined musicianship of a highly creative violinist can come his shy and furtive efforts to learn the cello too, or even the flute, or to try his hand at conducting, or even at composition. Too rigid a definition of himself as the best violinist in his home city may prevent his eager response to other challenges, his readiness to do some things that he is not particularly good at doing, his capacity to do things because of their very appeal and their intrinsic promise, and not just because they represent the highest level of skill which he has mastered.

This whole conception of work, as involving spontaneity and the fulfillment of one's functions, is ultimately in sharp contradiction to a competitive definition of excellence or of competence. In the last analysis productivity has nothing to do with competition, and to pit people against one another in terms of their competitve powers is a way to do grave injustive to the intrinsic delights which work can offer.

But what kinds of standards other than the competitive are possible? There are functional standards which go right to the heart of the person. There are the satisfactions from functioning as we are organized to work, either through our intrinsic hereditary gifts, or through the elaborated forms which there hereditary gifts make through the long and arduous and disciplined learing process. Work fulfillment involves the progressive capacity to be more and more released in the utilization of our potentials.

There is a constant stream of explicit and implicit messages to the little child about work and its value. Often he is told how his parents worked hard doing chores, doing meaningful tasks, and he gathers that there is prestige and sometimes material rewards from these tasks. But many of the tasks which used to be done, like mowing the lawn and caring for the furnace, may be meaningless to the apartment-house liver in an urban industrial period in which the whole concept of chores to be done has shrunk to the vanishing point. All the more burden then is shifted to the work that is supposed to be done in school. Here on the one hand there is a great deal about hard work and discipline, and on the other hand a great deal about making things easy which is so represented as to sound very good indeed. Not only are textbooks frequently represented as painless sources of information, but the child becomes aware that the grown-ups' world too is being shortcut all the time. He sees the advertisements of this or that "made easy," and big gains for little labor. No wonder he is confused. The trouble is that work as an abstraction is represented as good and also is represented as bad. Of course, there is no solution until a more refined analysis of the concept is worked out.

Specifically work may mean almost anything from senseless butting one's head against a meaningless task to solving a delicate and beautiful problem with a delicate and beautiful solution. The concept of work itself as a bringer of prestige has to compete with the status around successful aggression, skill whether involving work or not, intelligence and charm which are often represented as falling from heaven whether they do so or not.

Where does work come in as a source of gratification, and as a source of reward? Would it be possible to teach very concretely in terms of the satisfactions which parents, teachers, and big brothers have in their work? Would it be possible, for example, to identify with a teacher who really loves his or her work? Often the teacher complains of the number of hours of work in such a way as to suggest that intrinsically the more work there is, the more of a burden it is. This measurement of work in crude physical terms, though often necessary, is going to make it extraordinarily difficult for the boy or girl to conceive of work as intrinsically gratifying. Could we even go further and ask that we individualize the conception of work, that is, work as suitable for oneself and one's own gratification and fulfillment, something of which one may be proud if it is really one's own work? Even in the working-class child, as we call him, there is nothing to make work personal. One "picks up" a job. One does a "lick" of work. One gets paid for it. One passes on to the real fun which is defined in non-work terms.

Questions then arise as to the school atmosphere, the attitude of the individual teacher who means the most to the child, and the boys and girls in grades ahead, or older brothers and sisters in the family who can play a very large part in dignifying work. I have attended several meetings recently of curriculum builders who have been struggling with this problem of the way in which work attitudes, and more broadly all attitudes of personal worth and achievement are represented by the curriculum. As one conference was labeled, brilliantly guided by Robert Havighurst and Ralph Tyler, "ego strength and the curriculum." We had to extemporize and to exchange with one another ideas about how the curriculum can actually build strong ego, an ego adequate to life's demands. It was universally recognized that it was not the subject matters, or even the organization of the courses with reference to one another and their place at various age levels, that made the major contribution to mental health, but rather the way in which the curriculum was individualized to give the maximum of satisfaction and the maximum of power to the growing mental and emotional capacity of boy and girl. One may conceptualize productivity in terms of steps taken towards an ultimate goal; also in terms of the new feelings which arise as coordinated and disciplined activity are carried out and given immediate and intrinsic satisfaction.

One can push this concept quite far in an individualistic direction but then must pause and consider, of course, the interdependence of the satisfactions of all. Work fulfillment in a democracy can only come when the work is for the good of the group, not just momentary personal gain, but only if the work is done by a group. It may be the relatively simple task of all pulling together as in pulling a hawser or in a tug-of-war. It may be at a slightly higher level as the oars are pulled together in the boat race; higher still as coordinated interchanges occur in basketball or baseball; higher still when individualized skills are articulated into a complex symbolic sphere as in professional tasks involving, let us say, the consultation of physicians or of educators, one with another, for a complex total objective in which each can give what he or she has to offer. This is work that is really fulfilling in our group life. It has to be individually fulfilling, but then it branches over into a type of fulfillment which depends upon high level coordination, and this becomes ego fulfilling in the deepest social sense. The curriculum builder has to begin by dignifying each specific piece of work; and then the concept of work in general; and then the conception of an ego to be fulfilled; then the conception of the mutual support of one another and ego building process which articulated and cooperative work can provide. This, in turn, has to be seen in terms of a time dimension so that the school and curriculum planner can see clearly the probable effect upon ego fulfillment and not just upon units chalked up in supposed preparation for further chalking up of further records, giving credit supposedly towards life itself. The curriculum builder can invest each work and each work plan as a whole with a quality of joy in mastery and of individual ego fulfillment, all ordered from the simple to complex level, as the nervous system and the body as a whole become differentiated and integrated through the years.

But there is danger here of a real "make-work fallacy" no less insidious than the make-work fallacy of the economist. The work must satisfy the boys and girls in terms of their standards. It must really be work in a sense of the term which carries meaning and dignity. We may differentiate between three ways of trying to fulfill the requirements that life should be rich in work.

(1) We may first have boys and girls carry out tasks involving, as we say, discipline for its own sake alone. The inevitable result will be that the boy and girl learn that concepts of honor and dignity are applied by us just as easily to things which have no worth in themselves as to things which have great worth, and dignity can become as empty word. In a city equipped with efficient and inexpensive cleaning devices of all sorts we may try to instill respect for disciplined work by having the child's elbow grease used in a period of "clean up" in which he will inevitably learn that hard work and elbow grease are turning out a product not worthy of modern standards. I think of the nurses in training in certain hospitals of yesteryear who spent six months as hospital slaves, and made the hiring even of inexpensive labor unnecessary because this counted as six months towards their three years of training to be graduate nurses. This hollow sham could fortunately be seen through, but new variations of this still appear.

(2) A second example is getting boys and girls to do work in the name of kindness, to prepare things for people for whom the task done is supposedly useful, but who in point of fact have quite different needs. We all think here of the beautiful paper baskets made by kindergartners and first graders to take as a gift to Aunt Susie across the street. Affection and the generous impulse towards Aunt Susie might well begin by

inquiring as to what Aunt Susie would really like to have and could really use.

(3) The third level is to introduce the child to small editions of the world of work to which the great adult world is devoted. There has been quite a battle, for example, in Gandhi's modern India as to the issue known there as "basic education." In villages remote from the cities it has been possible for tiny children to learn about the spinning and carding of cotton, and to carry out in order the various processes that lead to making the adult and child clothing that is required. "What!" asks the horrified sceptic, "Is this a rationalization for continued child labor?" The point has been, however, that in the Indian village, where purchase of industrially processed textiles comes hard, it is possible to help the primitive economy of the village family, to introduce the child to the reality of adult ecomomic operations, and to give him a sense of dignified participation in the work world to which all belong. Here confusion can arise the minute that this activity is continued blindly despite the availability of modern textiles and the adequacy of a mode of distribution from the cities in which they are made. Basic education of Gandhian type can be enormously supporting under certain conditions, but has proved to be stultifying when applied without vision. The pro and the anti arguments in the field of self sufficiency have become a burden to the flesh. Work that is really work in the broad sense of production for human needs, gratifications, and fulfillments can never be equated with unneccessary labor pursued on the conviction that it is good for people to have it hard, and that working is just one of the hard things of life. We all know of schools in our country, and there are similar schools in Western Europe and the Soviet Union, in which the child is early introduced to real industrial operations which he begins to carry out with energy, and

even with understanding articulated well with the symbolic skills which give a social context and deeper understanding as to the meaning of such work.

Another quagmire of confusion, I fear, has appeared in connection with the idea of alternating between work and study, or theory and practice. It is the alternation of work and rest, as I said a few minutes ago, that has given a creative and even a prophetic quality to some of the most heroic workers, inventors, and creators of ancient and of modern societies. In every case that I have been able to think of, the creative work has really been work at the same time that it was creative, and the rest is in itself a kind of work, a rebuilding for the sake of higher order creativity which is to follow. If the rest from work is "boondoggling," or if it is pursuit of high level scholarly activities which are somehow conceived to be not work, or of a basically different type from the "real work" in an industrial or commercial or artistic or teaching situation, we have perpetuated the rift between work intrinsically satisfying because it involves the whole person and work which is sheerly laborious, effortful output of energy not clearly understood or articulated with theoretical knowledge. Some kinds of work-study alternation I have seen in young friends which seemed to be effective; others I have seen in which the rift was maintained, and a system of starts and stops, both in the work sphere and in the study sphere, drove home to the student that somehow the planners of his education achieved no real integration. We have all seen, even in the ordinary lecture-laboratory combinations in high school and college, the tragedy of fine comprehension of the lecture combined with blind and stupid carrying out of laboratory exercises which are conceived by the brighter student to be a sheer waste of time, and on the other hand the boring lectures are felt unnecessary for those who have studied the textboods or who have grasped the principles evident in the laboratory experiments. We can split the work schedule in terms of days and hours, or even content to be learned, but we cannot split the mind of the learner, and he will see through the artificial character of any separation we try to create. If work does not include work for the mind, it is not fully human work.

In all this I have suggested that there is a certain amount of pressure and effort involved in all real work. This may be a slow, smoldering fire, or a series of conflagrations. There needs to be, for most of us, an occasional real conflagration at least. There needs to be pressure either supplied by the imaginative delight of the worker who is really participating as a person in the work, or the momentary torch flame carried from a teacher or a co-working group which lights and relights the uneven flame. Sometimes this is referred to as the value of pacing. Floyd Allport has reminded us that it takes much more energy to keep ahead in a foot race or a bicycle race than to follow at a constant distance, and that is maintain the same speed as the leader because the leader must supply all his own fuel from inside while the eyes of the followers are drawing in energies, buds of stimulation, from watching the legs and swaying forms of those who move on ahead. We need to be paced.

This is related in turn to what we students of the arts bave called the principle of "progressive mastery." Henry T. Moore presented his subjects with simple chords like major thirds and minor thirds over and over again, but he also presented them with more complex relationships like diminished sevenths. After a very large amount of practice in listening it turned out that for most observers the good, old solid major thirds and minor thirds had become boring, whereas the more complex interval relationships like the diminished sevenths had become more interesting and gratifying.

There was work to do, and when the work of integrating the tones had been very thoroughly carried out and the chords were self-evident wholes, there was nothing more to do. Progressive mastery is a process by which listening to or carrying out a complex task makes it in time satisfying, and we reach a point at which not the old complexities but new ones still more complex are needed. As Holmholtz showed, the use of more and more complex tonal relationships has been evident from Greek music right through the Medieval and Baroque periods to the present. The "cacophonies" of the late Nineteenth Century and the Twentieth Century are becoming satisfying and indeed necessary to him whose ear--that is, whose brain--has become stretched by more and more experience in coping with the difficult. Work must be ordered in terms of effort which means in turn that it must be ordered in terms of levels of complexity, higher levels of integration. Children and youth will differ hugely in respect to what is simple or complex at any given level in their growth, and unless we have the budget and the trained teachers to carry out a highly individualized type of individual education in the arts and crafts we shall have to use a rich variety of materials so that there will always be something relatively easy, but much that is complex and difficult for each person in the group.

Children also differ from one another, as do adults, in the personal habit of making work challenging or making it easy. We may here use the classical methods of Lewin's pupil, Hoppe, who gave people difficult tasks, and asked them immediately upon the completion of each task "How well will you do on the next one?" In simple, easily scored problems, many people set an aspiration level far higher than they can actually achieve. They keep the gap, like the gap of carrot and stick, so great that they are always pushing toward the unattainable. Others set the aspiration level low, and when they have just made a score, their prediction as to what they will do on the next effort is scarcely higher than that which they already know they can do. The individual habits of working and of setting for oneself the standard to be met next are again among the variables to be built into any ordered plan for a curriculum sequence. It follows, however, from all of this that there is no natural "law of least action" by which people spontaneously and "naturally" try to get out of work. They try to get out of boring situations indeed, and they try to get out of the kind of laborious stress which strains sense organs and muscles and bewilders the perceiving and thinking mind. There is, as modern studies of activation level show, a middle region involving plenty of opportunity for effort, but never involving breakdown types of stress.

Here, I think, lies the answer to the question of the shortening of the work day and the work week. Without a corresponding zestful activity to be carried out during the leisure hours the work of a thirty-five hour week in a rather highly paced, repetitive clerical position--such as I have watched several individuals maintain for a number of years--requires absolutely for personal growth that challenge and an opportunity for creative work of another sort be maintained during the leisure hours. The contraction of work in terms of hours at the same time that it is contracted in terms of interest can lead only to a spongy and eroded personality unless something else takes up the slack.

It is generally assumed here that to combine the intrinsic interest, zest, and challenge with the work itself rather than with the leisure hours is the better procedure, and to this I can only reply that we are here fighting the battle of automation, to which I have already referred; and that if we cannot get first best, namely joy in our primary work, we had better try to get as much joy in secondary work as we can. Incidentally, if you take me literally, you will think here of moonlighting such as we have, for example, in Topeka, Kansas, in which it is a matter of course for hospital aides to take on secondary jobs as taxi drivers, or even a secondary hospital job to augment the family income. There is almost no relation at all here between personal growth needs and personal economic needs, and both the official educational system and the planners of mass media communication and adult education will have to think of the need for real work rather than the need for potboilers that emerge under these conditions.

I would add here that much the same issue has come up in glaring form with regard to the problem of child labor. When I was in elementary school and my father was battling for child labor laws which would at least prevent ten and twelve hour days for small children in mines and mills, he could little foresee the fact that we could in a half century have fairly adequate and universal child labor laws, and face the paradox of children leaving schools in droves in the middle teenage period not to meet family economic needs, but largely through sheer boredom, and finding themselves in a labor market which is particularly tough on young, new, inexperienced workers, and particularly unresourceful in thinking of ways to catch and hold their interest, intellectual or other high level skilled activities for which nothing in the school system prepared them. If they had had gratifying work experience at a beginner or appretice level and could continue to find such activity at a gradually more challenging pace, there would be no need for them to compete for messenger and bowling alley jobs which, with automation, have become harder and harder to find. Somebody, somewhere failed to make school work function as real work in the sense in which I am using the term. Maybe the person who failed was all of us.

I suggest then a definition of personality fulfillment through work which finds a place for multiple work satisfactions and work fulfillments, with emphasis upon dignity in the very process of working and satisfactions which arise not only from the products, but from the very nature of the self fulfillment which the work entails. I believe we are in desperate need of more adequate information as to the way in which the work is conceived, imagined by child and adolescent, the kinds of self images which are being developed in the school and community regarding work of various sorts, the provision of opportunities for progressive mastery in the evolution of work ideas and habits throughout the learning years, and the endless flexible restatement of work goals and ego ideals, level by level in each confrontation of a new work opportunity.

JOBS, CAREERS, AND LEISURE: IMPLICATIONS FOR COUNSELING AND THE SCHOOL CURRICULUM*

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Among your conference speakers, I think I shall appear as the man who looks backward, a stark reactionary. For many of the implications of your discussion so far--that our society is a leisure-oriented society, that leisure must now take up the slack caused by the disruption of the labor market in the new era of "Cybernation," or by the new alienation of modern work; that we will have to break the once tight relationship between income and employment or rewards and type of work; that the typical man once had a stable career; but now with greatly accelerated technological change, he does not or will not; that we must revise our school curriculum either by accenting the vocational, or by training for leisure--I think that these themes are either exaggerated in the manner of science fiction or are alarmist inferences from correct premises. I shall therefore make some cautious assertions about hours and types of work, the quality of leisure, and the connections between the two; and then draw some general lessons for school curricula and couseling, i.e., for the type of man we should try to create and for the type of machinery we need to bring occupational information to the schools.

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If the arguments of the students of the "triple revolution"[1] merely imply that for economic and humanitarian reasons, there should be a floor below which no family should be allowed to fall, I enthusiastically agree. If they imply that we are becoming a leisure-oriented society, quickly moving toward the day where the average citizen has no useful work to do, and we therefore must find substitutes for work, I doubt it. We need to bend our abundance to great purposes, pay people for work that needs doing--create jobs, part-time and full, that will harness the energies and channel the idealism and enthusiasm of millions of men, women, and young people. Even for the long run of 20 years, it still makes sense to talk about education, vocational training, and public policy as they relate to jobs, labor markets, and careers.

Two related characteristics of modern economies provide leads for our consideration of school curricula and counseling: first, the uneven distribution of work; and second, continued technological change, which, whether we call it automation or not, constantly changes job requirements. Both tend to increase the natural indifference of hard-working adaptable majorities to the fate of those who can neither work nor adapt. Both underscore the idea that the best vocational education is education for lifetime learning.

Poverty, the Uneven Distribution of Work, and the New Leisure

When people hear that I am studying leisure styles they often say, "Oh, yes. Isn't it awful: what will we do with all this leisure time?" And then they are apt to mention the electricians in N. Y. C. who struck for and won a 25-hour week. Or they mention "suburban neuroses"--the ills of women with time on their hands.

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[1] The Ad Hoc Committee on the Triple Revolution, "The Triple Revolution," Santa Barbara, California, P.O. Box 4068, 1964. D. N. Michael, Cybernation: The Silent Conquest, Santa Barbara, California: The Fund for the Republic, 1962.

Well, scratch the surface a bit and you will find that those electricians are actually on the job 45 or 50 hours a week (logging overtime); and those women, like women everywhere, are putting in as long a "work" week as their ancestors of preindustrial times (logging time in child-rearing, housekeeping, and the like).

Talk of the leisure-oriented society and the decline of the "Protestant Ethic" has obscured the basic fact of the matter: modern populations on the average remain busy--with some groups becoming busier while other groups are condemned to forced leisure.

The average man's gain in leisure has been exaggerated by selective comparison of gross daily or weekly averages in working hours with those of the "take off" period of rapid economic growth in England, France, and America--a time of bloodcurdling schedules and conditions. Estimates of annual and lifetime leisure and comparisons with earlier times suggest a different picture. The skilled urban worker has now achieved the position of his 13th centry counterpart, whose long work day, seasonally varied, was offset by many holidays, rest periods, and long vacations; annual hours of work now, as then, remain in the range 1,900-2,500.

Upper strata have in fact lost out. Even though their worklives are shorter and vacations longer than those of lower strata, these men work many hours, week after week--sometimes reaching a truly startling lifetime total. Top leaders in political and economic life, in the military establishment, education, welfare, aesthetics, and entertainment show a marked preference for income over leisure. At less exalted levels, millions of ambitious men adopt a similar way of life. Considering both moonlighting and all hours worked on the main job, data suggest that there is a slowly growing minority of the male urban labor force in the United States who usually work 55 hours a week or more; at least a third of the lawyers, professors, small proprietors, and middle managers in our Detroit area samples work that long.[1]

How about women--who, after, all, have the most apparent choice in the matter? Economic growth everywhere brings more women into the non-agricultural labor force; for women in all the rich countries both opportunity and motivation to work run high. This, of course, excludes the "work" of home and family. It seems plain that emancipation, while it has released women for the labor market, has not to an equal extent released them from housewifery. Studies of the weekly round of women report a range of averages of 50 to 80 hours a week in housework, child-care, and paid labor. If a woman takes a job today, whe has to figure on adding her workweek to a 40 or 50-hour "homemaking" minimum.

On balance, the female "workweek" may be as long as it was a century ago; while pace-setting elites, the main carriers of cultural traditions and values, have likely increased their time at work. As for the decline of the "Protestant Ethic," comparison across many countries and many centuries suggests that wherever economic growth is sustained, values which acquire a sacred cast and which say, "Hard work--rational, disciplined, regular, reliable--is a good thing" will appear, both reflecting and reinforcing that growth. We see this in the foreign counterpart to the busy beavers in American samples: The Soviet managerial elite--hard driving, Puritanical; or the Japanese--conscientious, full of entrpreneurial vim and vigor.

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[1] For an assessment of evidence, see H. L. Wilensky, "The Uneven Distribution of Leisure," op. cit.

The uneven distribution of nonwork time among those working, and the incidence of involuntary retirement and unemployment suggest that men who have gained most leisure need and want more work. The "leisure stricken" are not replacing the "poverty stricken;" the two are becoming one.

For an explanation of the uneven distribution of work, we must look to technological change, and ask, "what does modern technology mean to the less educated, the less skilled, and the aged?"

The Impact of Continued Technological Change

Some observers of automation suggest that the new technology will involve a massive upgrading of skills, a few go so far as to say that laborers will become professionalized, most everyone will be a quasi-engineer. Others say that it will mean a proletarianization of white collar strata as the middle class sinks in the Marxian manner, into the working class and is exposed to its insecurities, and its oppressive work routines (and I suppose its union organizers). Still others--notably the Ad Hoc Committee on the Triple Revolution (expecially Robert Theobald)--believe that automation will wipe out so many jobs that we must transform "the right to a job" into the "right to an income," that the problem from now on for everyone is meaningful leisure not meaningful work.

All three view--upgrading, downgrading, and a new leisured society--contain truth but all also contain nonsense about automation; they hide much of what is happening on the work front. Since no one knows the net effect of all these changes in thousands of jobs, let me hazard three guesses: (1) the likely changes in abilities required in the labor force in the next decade will not mean a great net shift up or down; (2) the social problems created by technological change are serious but not new;

(3) the problem of poverty, also serious, has not been created by automation.

Automation and Changes in Abilities Required. Three implications of the new technology are relevant for a consideration of school counseling and curricula.[1]

1. *Among men of the working class, automation means an increased demand for responsible work performance*, an accent on mental clarity and alertness more than physical strength or manual dexterity. That slogan "upgrading" of "skill" will mislead us--if when we say "skill" we evoke the image of a skilled carpenter who does beautiful cabinet work with great pride of craft.

Our new worker in an automated plant is not like that carpenter. Instead he is a fellow who can sense connections between processes, *remain vigilant*, in some cases spot trouble when it is developing, in all cases give close and regular attention to signals that tell him how well machines are doing man's work--a worker who when the technical and organizational system is changed by engineers, planners, and programmers in the head office can quickly learn new signals and new trouble spots in new automatic machines. The *watchwords* in these tightly integrated systems of production are *"discipline,"* *"reliability,"* and *"adaptability"*--what managers mean when they say "good work habits."

2. *Automation means both upgrading and downgrading of skills in clerical, sales, supervisory, and accounting jobs*. The net effect may be a slight shift downward. The insurance adjuster finds himself attending

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[1] Cf. M. Philipson, ed., *Automation: Implications for the Future*, New York: Vintage Books, 1962, especially the essays by D. N. Michael, N. W. J. Diebold, N. Wiener, and E. M. Kassalow. For a sober assessment of the impact on top management and staff, see Herbert A. Simon, *The New Science of Management Decision*, New York: Harper and Bros., 1960

[illegible] mechanization takes care of the routine semi-clerical tasks which once burdened him. On the other hand, the office manager with 30 subordinates in a payroll department confronts an electronic brain programmed and run by others and has only two girls working under him.

The lesson of case studies of the changeover to EDP is that we have grossly exaggerated both the indispensability and complexity of many office jobs. Union men somewhat gleefully suggest that for the first time white-collar workers are going to learn how it feels to be pushed around.

A case study of a utility discovered that many managers and clerical workers who were given credit for judgment and know-how were shocked when their jobs could be programmed simply.[1] An old office Joe reputed to know everything may have known a good deal--of organizational history, of gossip--all of it unnecessary.

The white-collar pyramid is flattening out, with a heavy concentration of workers at the low end of the salary scale--e.g. in key punching jobs, which are themselves being automated.

3. Automation means both upgrading and downgrading of managerial and administrative jobs. If we combine the rapid handling of information by computers, the application of mathematics and statistics to administrative problems (mathematical programming, simulation, and operations research), and the recruitment and training of better-educated managers who are smart enough to use the staff to put these methods to work, then we have a formula for revolution in the middle bureaucracy.

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[1] Floyd Mann and Lawrence K. Williams, "Observations on the Dynamics of a Change to Electronic Data Processing Equipment," Administrative Science Quarterly, 5, (1960), pp. 217-256

and perhaps ultimately in top management, too. It means greater centralization of authority, clearer accountability of subordinates, a sharper distinction between top management and staff and rest of the organization, and eventually a transformation of the planning and innovating functions.

Automation and Social Problems. Obsolescence of some skills and displacement are as old as technological change, and they hit hardest the same types of populations they have hit for decades, although there are now some increases in their numbers: (1) Nonwhites; (2) older workers; and (3) youngsters out of work and out of school or young men with low seniority.

To illustrate these problems, take a man with 20 years seniority and specialized skill as a lathe operator, a skill no longer needed because of automation. There is no use telling this man (or his union) that in the long run there will be a great demand for electronics engineers, physicians, teachers, scientists, and high grade maintenance technicians who know mechanics and electronics and hydraulics. He is not those men of the long run. In the long run he'll be dead.

The same may hold for our 55-year-old bookkeeper who finds himself made obsolete by an "electronic brain." If either the lathe operator or the bookkeeper is displaced he faces the problem of getting another job. Meanwhile, he needs something to tide him over. If he is put on one of the new jobs with the same old company, he must be retrained.

The displacement effects at higher levels are not so serious. Managerial and technical personnel typically have a base of skill and adaptability, if not finances, to adjust to changing technology and changing products with little pain. No major problem of public policy is posed by the engineer who has to shift from Boeing in Seattle to General Dynamics in Texas and who meanwhile is forced to sell a couple of thousand dollars in stock to help finance the move and the search for a new home.

The problem is the man of high skill and limited resources being made obsolete or facing dilution of skills; and more important, the man who may not be capable of retraining or upgrading.

Unless we want the poorly educated, and men who are "set in their ways" to lose their semi-skilled foothold in industry (many are Negroes, southern whites and other newcomers), a bold program of retraining and relocation, private and public, must be worked out. We must be prepared, too, to modernize our welfare state--to cushion the shocks of change; and to create new useful jobs.[1]

In current debate about unemployment and poverty, automation is often invoked as the all-purpose cause. Much of what we attribute to automation, however, is more a product of basic demographic changes (more young and old people); discrimination against older workers, Negroes and other minorities in hiring; and insufficient aggregate demand.

Automation did not cause poverty. You have only to list the categories. If we say that an annual income of less than $3,000 for a family of four makes them poor, then we find that one in three of these low-income families is headed by a person over 65. Many of the aged, as before, are sick or disabled. But more are involuntarily retired--replaced by middle aged women, the young, and the educated of every age. We also find an increase in families headed by a woman (now one in four of poor families), and in families headed by non-whites (one in five or six of poor families are Negro; other minority groups--e.g. Mexican-American newcomers to places like San Jose--are in the same boat).[1]

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[1] See the paper by Gardner Murphy, this volume. Cf. H. L. Wilensky, "The Problems and Prospects of the Welfare State," op. cit.

And, finally, with the high fertility rates of the 1940's and 1950's and with one in four youths dropping out of high school, we find an increase in young men who have locked for a job and never landed one. (They hang about on street corners, in pool rooms.)

Now tha labor force participation of old men has been decreasing in every rich country since 1890--because of educational and occupational obsolescence (compulsory retirement, and age discrimination in hiring), and the decline in "old men's" jobs (farmers, tailors, locomotive engineers) in proportion to the number of old men.[2] Automation did not start this trend; it will merely assure its continuation.

Women not working and therefore unaffected by automation are the core of that portion of the poor "women heading broken homes."

And Negroes have for decades experienced an unemployment rate double that of more favored whites--a product again not of automation but of long-standing patterns of discrimination. Because of the growing proportion of young nonwhites in the labor force and their educational and occupational disadvantages, we can be sure that this problem will intensify. In fact, if trends in upgrading the jobs of nonwhites continue only at the same rate as in recent years, the nonwhite unemployment rate in 1975 will still be about two and one-half times that for the labor force as a whole.[1]

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[1] Half the heads of poor households, compared to a fifth of the general population have one or more of these three characteristics--aged, women heading broken homes, and nonwhites. For recent data, see Committee on Education and Labor, House of Representatives, 88th Congress, 2nd Session, Economic Opportunity Act of 1964. March, 1964, Part I, pp. 33-34,38,41; and Lampman, Robert J., "The Low income Population and Economic Growth," Study Paper Number 12, Joint Economic Committee of Congress, December 16, 1959.

[2] H. L. Wilensky, "The Uneven Distribution of Leisure: The Impact of Economic Growth on 'Free Time,'" Social Problems, 9, Summer, 1961, pp. 32-56, Bobbs-Merrill Reprint #S-542, Bobbs-Merrill Repring Series in the Social Sciences, The College Division, The Bobbs-Merrill Co., Inc., 4300 West 62nd Street, Indianapolis, 6, Indiana.

Attacks on Poverty and Unemployment. Each of the two main ideas in current debate about the jobless contains truth--there is a problem of "aggregate demand" (many employers will not do what has to be done unless they are short of help), and there is a problem of "structural unemployment" (even with sharply increased demand, millions of the unemployed will not fit job requirements in an age of automation). Both problems yield to intelligent public policy.

The first line of attack is federal action to maintain full employment and a high rate of economic growth. When the demand for labor is high employers try harder to locate and train people for existing jobs and, in fact, they often remake the jobs to fit the limititions of the human beings on hand. There is nothing like a brisk labor market to make a grammar school dropout look useful, an old man look strong, an unskilled woman skilled, a Negro acceptable, an "unemployable" a good bet for the next opening. The list of anti-depression weapons available to an alert administration today is long (from variable taxes to actions of the Federal Reserve System, from unemployment compensation to deficit spending)—none of them alien to the American tradition.

For millions, however, more specific action is necessary to fit the talents of the population to manpower needs. The island of depression in a sea of prosperity (West Oakland; Watts; Pembroke, Geogia; Newburyport, Massachusetts) can be handled by aid programs--aid to our own underdeveloped areas. Moving allowances and vocational guidance can encourage the move to more hopeful places. From European experience, it is plain that the United States can do much more to put the schools in touch with labor market requirements and information, for both young people and adults.[1] And retraining programs can salvage many an obsolete man on his way down--but only if we create jobs for them.

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[1] Technology and the American Economy, Vol. 1, February, 1966, p. 31. This report of the National Commission on Technology, Automation, and Economic Progress contains a balanced assessment of these urgent problems along with sensible recommendations for their solution.

There is no mystery about how new, useful jobs can be created for men least able to compete in the labor market: the starving public civilian sector can generate the jobs whenever we decide to invest the necessary money in desperately needed services in health, education, and welfare. The 1966 report of the National Commission of Technology, Automation, and Economic Progress put it plainly: new programs such as the Neighborhood Youth Corps "recognize the anomaly of excessive unemployment in a society confronted with a huge backlog of public service needs in its parks, its streets, its slums, its countryside, its school and colleges, its libraries, its hospitals, its rest homes, its public buildings, and throughout the public and nonprofit sectors of the economy. They recognize that employing the unemployed is, in an important sense, almost costless. The unemployed consume; they do not produce. To provide them meaningful jobs increases not only their income but that of society. Much of the work that needs doing calls for only limited skills and minor amounts of training. Some of it is manual in character; some of it is subprofessional."[2] The Commission estimates that 5.3 million jobs can be provided through public service employment in six fields--medical institutions and health services, educational institutions, national beautification, welfare and home care, public protection, and urban renewal and sanitation.[1]

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[1] Gordon, Margaret S., Retraining and Labor Market Adjustment in Western Europe, Manpower Automation Research Monograph No. 4, August, 1965, Institute of Industrial Relations Reprint No. 267, University of California, Berkeley.

[2] Technology and the American Economy, op. cit., p. 36

Attacks on the Problem of Job Discontent Among Men with Jobs.[2] The great majoiity of modern populations are men whose information, motivation, skill, and education enable them to find a solid place in the economy Their job satisfactions, however, vary. Is this a problem for public policy? Should it be?

Job discontent is not high on the list of American social problems. Surely in importance, the population explosion as it affects the quality of daily life and nuclear weapons as they affect the prospects of civilized survival, rank higher. Work is instead like the second major user of time, television: the dominant feeling about it is ambivalence, strong alienation is rare, more pleasant alternatives serving the same functions at the same cost are not readily available; without a vision of a better way of doing things, there is a tendency to accept the world as it is constituted.

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[1] Ibid., pp. 35-37. One promising development in recent experiments in community self-help is the creation of new roles for indigenous nonprofessionals and for semiprofessional social service workers, a new army of helpers in education and social welfare. The first group are people who come originally from the disadvantaged areas they serve and who have personal understanding of the kinds of people and problems involved. They fill a crucial gap in welfare manpower: social work professionals are scarce and they are often reluctant to work with the poor; the new indigenous welfare workers serve as a bridge between agencies or schools and the poor. Their backgrounds match their functions: Youth for Service in San Francisco trains older gang leaders to become streetworkers; the New York State Division for Youth uses former juvenile offenders in interviewing delinquents and in related research tasks; Howard University's Community Apprentice Program trains delinquent youth to be recreation, child welfare, and research aides; Puerto Rican informal leaders act as liaison between the schools and the Spanish-speaking community; Mobilization for Youth employs such nonprofessionals as community action organizers, case aides, parent education aides, homework helpers. To transform the welfare case into a homemaker, the delinquent into a research assistant, the impoverished student into a teacher is to make welfare services more effective and at the same time provide employment for the poor. For discussion and references, see Wilensky, "The Problems and Prospects of the Welfare State," op. cit., pp. xxxvii ff.

[2] For elaboration, see H. L. Wilensky, "Work as a Social Problem," in H. Becker, ed. Social Problems. New York: John Wiley and Sons, Inc., 1966.

Insofar as intellectuals or workers have become concerned about work (not the lack of it) as a problem, they have advocated three major types of solution: (1) Develop patterns of creative, challenging leisure to compensate for an inevitable spread of stultifying labor; (2) offer vastly better compensation for those condemned to alienating work situations; (3) redesign the technology and workspace to invest work with more meaning, and hence enhance the quality of leisure. The first solution is unrealistic; labor which requires little investment of self tends to go together with leisure which if full of malaise. As I have shown elsewhere,[1] the leisure style of short-hours men at every level (engineers, blue-collar workers) is like that of men who have no work at all: its main theme is the compulsive absorption of gargantuan amounts of shoddy television as a time filler. Generally men whose time at work is limited have time on their hands; they cope with restless malaise by an unsatisfying retreat to violent, escapist programs; the detective, western, adventure triumverate dominates their leisure hours.

One qualification: whatever their work situation, a great majority of men with a very high-quality college education display high leisure competence (if we can take their uses of the mass media as a clue). But these fortunate men tend overwhelmingly to work long hours at gratifying work--and their leisure competence is accordingly high.

To solve the problem of leisure we must solve the problem of work:

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[1] See H. L. Wilensky, "Mass Society and Mass Culture: Interdependence or Independence?" American Sociological Review, 29, April, 1964, pp. 173-197.

what is necessary is a heavy investment in institutions which prepare people for both. However, I do not think that this implies any new vocational emphasis in the curriculum or anything so specific as "training for leisure." I am sympathetic to Donald Michael's demand that we arrange the educative environment to provide experiences in the self-cultivation of leisure, and to Gardner Murphy's call for "pluralism" in work norms and styles (the disciplined violinist who is also a spare time amateur flautist), but we must face the fact: those who lack a privileged education and the opportunity to make work a way of life--the vast majority of men of every time, including ours--do not adopt these rich styles of life.[1] Unless we can arrange things so that many millions of college graduates are exposed to the educational atmospheres that now characterize a handful of elite liberal arts colleges, and unless these same millions then move into remarkably challenging jobs, we can expect present leisure patterns to persist.

The second solution is the trade union strategy of more money for less working time--pay and play within the framework of existing technology. Testifying to the popularity of this solution are the provisions of the typical union contract: scores of ways of compensating for unpleasant work--from rest periods to vacation pay, from premium rates for dangerous work, or night work to renegotiation when job content is changed (it is usually assumed that any change is for the worse and ought to be paid for). Managerial variations on the theme include (1) plant tours to give the over-specialized worker an overview of the plant or product, (2) participation programs to give workers a sense of belonging (e.g., suggestion plans, profit sharing), (3) training of supervisors in human relations to secure a less strainful acquiescence to authority. Such solutions have in common the attempt to increase the rewards of admittedly-frustrating work without changing the work itself.

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[1] The image of coherent yet versatile styles of life for the masses is recurrent in the history of social thought. In the early writings of Marx and Engels, during their humanistic stage, work in the utopia of the classless society would acquire the free, fluid character of leisure: "Society regulates the general production and thus makes it possible for me to do one thing today and another tomorrow, to hunt in the morning, fish in the afternoon, rear cattle in the evening, criticize after dinner, just as I have a mind, without ever becoming hunter, fisherman, shepherd or critic." Karl Marx and Friedrich Engels, The German Ideology, New York: International Publishers, 1939, p. 22.

Left to their own devices, workers often find the "compensation" solution wanting; they say they could reorganize the technology and task more efficiently on their own or they in fact do so. One survey of production workers in heavy industry reports that two in three of the respondents felt that their work could be done better if they had more chance to make suggestions about such matters as the design, layout, or set-up of their own work. The traditional ingenuity of machinists who invent and hide cutting tools that do the work more efficiently than the official ways, and thereby permit more worker control of the pace, is matched by the exquisite genius of men who are moved to sabotage machine-paced operations. The autoworker on an old-fashioned assembly line throws a few botls inside the door panel and auto dealers are mystified by a rash of customer complaints about loud rattles in their new cars. Lately the phenomenon has appeared among tabulating machine operatives and other office workers threatened by EDP. The trick is to restrict the flow of information to be fed to the computers, fail to meet deadlines, let errors go through, and announce that "the job just can't be done that way."

The third strategy includes attempts to (1) enlarge the job--e.g., by combining the work of skilled set-up men and inspectors with that of routine machine operator; and (2) rotate jobs--e.g., by shifting teams of operators from one set of jobs to another daily, increasing the individual's pay as he masters each new block of operations. There is some evidence that job enlargement or rotation can not only reduce job discontent but can also increase efficiency--through improved quality and quantity of output, a more flexible workforce, and, less surely, reduced labor turnover.

But these programs are rarely adopted in American industry and then mainly in small plants headed by latter-day Owenites. To fit machine systems to the man is an idea strange to most employers. Those who consider it are repelled by the training costs and managerial effort required and are doubtful about the gains to be won; complete mechanization that eliminates the vagaries of human labor is far more attractive and, together with consolation prizes for the surviving workers, remains the main strategy of the change-prone modern manager.

Implications for School Curricula and Counseling

In California well over half the population of college age (18-24) is in college, a pattern spreading fast; nationwide, generally speaking, all but the poor finish high school. Leaving aside the issues of poverty and unemployment, let us consider the upper three-quarters of the educational distribution and how they might better become oriented to the world of work and better equipped to enjoy leisure. I assume that the poor--i.e. the aged poor, deserted woman poor, the welfare poor, the Negro poor, the dropout poor--present a series of special problems requiring vast programs only hinted at in the skirmish on poverty. I assume further that much of what we should do about the well off applies to the poor, too. A wider diffusion of occupational information for instance, would help everyone.

Placement and Guidance Machinery Vs. Education. How can the school, the employment service, and other social agencies supplement the information and motivation a youngster derives from direct contact (with peers, with adult occupational models such as his father or older brother) and from the mass media (from occupational heroes such as Perry Mason)?

In exploring that question it helps to separate two problems: (1) The mechanics of putting the college and high school product in touch with the best possible jobs. Here we deal with (a) ignorance of the occupational structure and (b) the organization of placement effort--testing and placement procedures, employment interview tactics, and the like; vocational counseling; the relations of universities and colleges and the employment service to high school guidance and tracking arrangements. These mechanics seem to me to have no close relation to the second problem (2) The nature of the high school or college product himself. Here we deal with curriculum (how "vocational," how "liberal," etc.), with student relations with parents ("How much does sociology pay to start?" or "What can you do with history?") and with the ideals invoked by Gardner Murphy, Aaron Levensstein, Donald Michael and other authors of papers in this report. (Check context of publication).

In discussions of education, these problems are too often seen as one. It is readily observed, for instance, that what the youngster is willing to do in his courses often depends on his or his parents' short-run occupational stereotypes and, so, the curriculum is adapted to the stereotypes. But the policies appropriate to the improvement of career guidance and those appropriate to the improvement of education are quite different. The case for their intellectual separation rests on three familiar facts, already mentioned:

1. Occupations and the skills they demand, continue to change very rapidly, with new occupations, new specialties, and new jobs emerging continually. The conservative estimate that beginning with his first full-time job held at least six months, the average man holds 12 different

jobs in a 46-year worklife also indicates that most of these job shifts involve a change in both occupation and industry (by the census definitions of major categories). Only one man in five will remain in the same major occupational category for his entire worklife.

For the young, then, the problem of "vocational education" is not to train for the first or second job; it is to provide an optimal base for lifetime learning.

2. Increasingly what the white collar and professional and even skilled manual jobs require are general conceptual or cognitive abilities (reading, writing, abstract thinking, etc.) and human relations skills--skills not taught exclusively in any one department and skills which employers increasingly believe are acquired by the college graduate, whatever his major.

3. The undergraduate major or even the first professional degree is not a good predictor of occupational fate. Some students, hearing about the growth of technical fields and the general increase in specialization begin to calculate every choice they make (of an elective course, of a major) with an eye to some specific job, professional or semi-professional. We might want to make such students aware of the Wolfle report. This report and other data suggest that it is almost the exception rather than the rule for a student to take an undergraduate major (or a first professional degree) in one field and remain there for the whole of his career. True, at least 9 in 10 of the graduates of medical and dental schools practice medicine and dentistry. But the health fields are not typical. For example, of the living men who had majored in chemistry in undergraduate years at the University of Michigan and Ohio State University (and who were in the civilian labor force and not in full-time graduate study), only 27 percent were employed as chemists in 1953. The

figure is 21 percent for psychology, 6 percent for the other social sciences, 27 percent for the humanities and arts, 59 percent for business and commerce, and so on. Even in such specialized fields as law, only 68 percent of law school graduates were practising law--and only 68 percent of the engineers remained professional engineers.[1]

Or if we look at the undergraduate majors of graduate students, we see frequent shifts between fields--the undergraduate social science of business administration major moves to a law school, the chemistry or biology major or even the English major moves to a medical school, the education major takes graduate work in the humanities, while graduates in many fields move to schools of education and social work, and so on.

Although good longitudinal studies on this matter are rare, there is probably even a looser relationship between occupational "choice" in high school and later occupational fate.[2] A Bureau of Labor Statistics follow-up of high school leavers in 7 labor market areas found that completion of industrial arts courses by boys had little effect on type of jobs obtained; dropouts and graduates fared about the same.[3]

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[1] Based on Table IV.1 in Wolfle, Dael, America's Resources of Specialized Talent, New York: Harper and Bros., 1954, pp. 51ff.

[2] Preliminary data from Project Talent's study of the career plans of 15,514 eleventh graders, reported in the press (e.g. San Francisco Chronicle, October 21, 1965), shows that about three in four of all boys graduating from high school change their original career goals within one year after graduation. Even choices for medicine, a profession whose practitioners are noted for their early commitments, are quite unstable: half of all young men who plan to become physicians when they are high school juniors abandon the idea by the time they finish their freshman year at college. Only one in 16 prospective medical technicians holds to that career choice. Cf. the consistent findings in John L. Schmidt and John W. M. Rothney, "Variability of Vocational Choices of High School Students," Personnel and Guidance Journal, 34 (Nov. 1955), pp. 142-146.

[3] M. Plunkett, "School and Early Work Experience of Youth, 1952-1957," Occupational Outlook Quarterly, 4, (1960), pp. 22-27. Cf. See the excellent review of similar studies by Martin R. Katx, Decisions and Values, New York: The college Entrance Examination Board, 1963, Chapter III.

From all this flows three observations that I hesitate to glorify as a "philosophy" of vocational education. First, vocational education should be basic education. Second, the machinery of counseling and placement of school and of community should be merged. Third, in supplying realistic occupational information through its curriculum and counseling, the school should not merely guide the early years of the student's career; it should also innoculate him against premature vocationalism.

Vocational Education as General Education. The best vocational education is a good general education, accenting basic literacy, disciplined work habits, and adaptablitty. If half our young people will one day hold jobs not now in being, if over his worklife the average man holds a dozen or more jobs, most of them related neither in function nor status, if the pace of technological change is at least not slowing down, does it make sense to increase specific job training in our public schools and colleges? Aside from a narrow band of a few hundred thousand technicians and apprentices in the crafts, who is the vocational training for? And even for that narrow band, how much strictly vocational education makes sense?

If we list the frontier progrmms of vocational education in the U.S.--those reflecting vocational goals appropriate to modern society[1]--we see that they all build on a solid general education. For instance:

1. We need a greatly increased supply of professionals in such fields as health, education, and welfare, as well as in science and engineering--men and women to man what will one day become a more civilized welfare state. Most of these professionals must begin with a liberal arts

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[1] A cogent statement of these goals is in Lester, Manpower Planning in a Free Society, Princeton, N. J.: Princeton University Press, 1966, pp. 154 ff.

education.

Even in something so "vocational" as engineering, it would be a mistake to copy the Soviet Union where the regime finds it easy to train and control its "engineers" by continual narrowing and redivision of traditional engineering curriculums.[1] Such fragmentation would assure the repeated obsolescence of engineering skills, which, to be useful over the worklife, must reflect a common core permitting quick retraining and refreshing.

2. We need much shorter periods of special training for semi-professional, semi-technical people ("technical and kindred" is the fastest growing segment of that fast-growing census slice, "professional, technical, and kindred"). The best laboratory technician or draftsman has had a good background in mathematics, reading, and writing; the best stenographer or practical nurse, a good general high school education followed by brief specialized training.

3. We need to shorten our three-to five-year apprenticeships in such trades as painter, carpenter, cement mason, or book binder--these and many more expanding trades could train men in a year, even less. As it is, our long apprenticeship systems reach only a minority of those who practice: "over three-fifths of the workers employed in skilled trades with apprenticeship programs have never enrolled in any formal training programs;" they have learned through work experience.[2]

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[1] N. DeWitt, (Education and Professional Employment in the U.S.S.R., Washington, D. C.: Government Printing Office, 1961, pp. 228 ff.) reports that there are programs for metallurgical engineering specialists in copper and alloy, in lightweight metals or in ferrous metallurgy; for mining engineering specialists in the drilling of petroleum and gas wells or in the exploration of coal deposits; for civil engineering specialists in bridge design, in building large-scale hydrotechnical structures or in erecting industrial buildings. "This fragmentation," he says, "is characteristic of every field of engineering."

[2] Lester, op. cit., p. 161. Our lengthy apprenticeship programs apparently

Apprenticeship in the U.S., in contrast to apprenticeship in Europe, is only loosely connected with the public schools. Both high school graduates and high school dropouts have bypassed it; they can learn by doing once they have elsewhere learned basic literacy and work habits. Our apprenticeship systems not only fail to reach most of the people who do the work; they are the enemy of flexibility, the very quality we must educate for.

4. We need more work-study programs. Let youngsters who feel demeaned or bored by the school curriculum learn work orientation on a job part-time, let them experiment with a variety of jobs, while they learn history, English, and mathematics in school.

The advantages are obvious. Part-time work helps keep potential dropouts in school. Most school leavers figure that the good jobs school leads to are not for them--that they have no chance to make out--so they drift out of school, get casual jobs or hang about the street. Part-time jobs as part of the school program--work in hospitals, in city offices, in the police department, in industry--can give them a glimpse of their job chances, provide spending money, and above all, give them work orientation and habits that will help them both in school and in the labor market. The academic side of school becomes more meaningful, or at least more tolerable, the transition from school to work is made smoother, the world of work comes alive.

In such work-study programs the academic side, far from being de-emphasized, can be intensified, drawing on the stronger motivation of the students.

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train supervisors and other managers--the core of really skilled men who guide the others. George Strauss, "Apprenticeship: An Evaluation of the Need," in A. M. Ross, ed., Employment Policy and the Labor Market, Berkeley: University of California Press, 1965, p. 313.

5. We need more second chance programs--refresher courses and in-service, on-the-job training--to adapt individuals to the special requirements of jobs in particular workplaces and to prepare them for promotion or to retrain them when skills become obsolete. But here again this has little to do with basic education in the schools.[1]

All this is to say that in its narrowist form, vocational education should be left mainly in the capable hands of the industries and military services who need the labor and can assure the relevance of the training they finance. The rest of "vocational education" is basic education for lifetime learning.

If I were a counselor talking with a high school senior or a college sophomore who had a sense of irrevocable commitment in his choice of a course or college major, I would often try to convey the following idea:

> Even if you single mindedly ignore every educational purpose beyond the vocational (development of alert citizenship, skills in community and family living, capacities of performance and appreciation in the arts, etc.), you are badly advised if you think that every course, every curriculum can train you for a particualr job. Most jobs are best learned on the job, and often can be learned no other way. Many students will get jobs not now in existence, and many jobs now in existence will be changed by the time the present crop of students is ready to move into them. Your capacity to learn a job quickly and do it effectively once you have learned it, your capacity to live a useful and satisfying life--this is where your education should count. So, keep your eye on the clusters of occupations your abilities, motives and opportunities move you toward, but at the same time let your intellectual curiosity develop a bit--even if it takes you in 'nonvocational' directions. In the end this is the most practical and profitable way to play the game.

Manpower Planning: Linking Vocational Education, School Guidance Services, and Employment Services. If we let the public schools and colleges do the job they are best equipped to do--orient the student to the accumulated knowledge, beliefs, and values of his time--that does not mean that they should evade the immense task of vocational guidance and placement.

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[1] In Europe, even on-the-job training included a good deal of "theoretical" education--training in mathematics, language, science.

It is a scandal that until recently vocational education in the United States emphasized training for the short-run, the local area, or dead end occupations. It devoted itself enthusiastically to training farmers' sons for nonexistent jobs, farmers' daughters in home economics. Even under the new Manpower Development and Training Act, the 24 occupations with the largest number of trainees include janitor, farmer and farmhand, assembler and subassembler, all swiftly declining groups. Because of a one-year limit on training allowances, the list is very weak in subprofessional occupations.[1]

If vocational training is misdirected, placement is virtually nonexistent. By the standards of rich countries, the process of linking young people, or for that matter people of any age, to jobs, is casual. In contrast to Sweden, West Germany, and other European countries, we have a weak, understaffed employment service, whose operations are only loosely related to school counseling, testing, tracking, and vocational guidance and training; occupational information in our schools is sparse; forcasting of occupational supply and demand primitive.[2]

The State Employment Services account for only an estimated 19 percent of all new hires. In 1964 there were only 1,700 persons on Employment Service staffs who were spending at least half-time on counseling. Of these only about two-thirds had college degrees. Training of staff is poor, in most states pay is poor, and workloads are frustrating--

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[1] Lester, op. cit., p. 160.

[2] Cf. Ibid.; Gordon, op. cit.! and Technology and the American Economy, op. cit.

for the few fully trained counselors as many as 12 or 13 interviews a day compared with a standard of no more than 6 a day abroad. No wonder these agencies are still viewed as "unemployment offices."

If the employment service is to become a community manpower center, linking area and national projections of occupational needs to vocational training programs and school counseling, it will require heavy financing, federal standards, strong regional offices for mind-stretching training for top staff, and, not least, active cultivation of employers and of school personnel.

Such a manpower center would encourage informed movement of workers and discourage ill-advised moves; it would collaborate with local schools to provide general orientation and continuous career guidance for students from junior high school on. It would share its staff with the schools.

What occupational information we have is centered in the Employment Services. Their figure of about 1,000 full-time counselors must be compared with the full-time equivalent of 27,000 public school counselors[1]--a ratio of 1 to 27. What do the school counselors do? At the risk of over-simplification, we can say that they are talent scouts for the colleges, especially local and state colleges. They are only slightly attuned to manpower facts and figures.

A fascinating case study of counseling in a big consolidated high school on the North Shore of Chicago, which can be taken as a model of the future--a high income community with a well-developed college panic--suggests that counselors justify their position by emphasizing semi-clinical cases. Lacking training in occupational counseling, using social workers as a reference group, they work with social-clinical stereotypes such as "under-achiever," "over-achiever" or that marvelous euphemism for the low test-ability weak performer, "opportunity student."

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[1] Lester, op. cit., p. 64.

If a youngster is in the "in-crowd," has the right personality characteristics or family background, and has above average test scores, but medium to low grades, he has a good chance of being defined as an "under-achiever" and his parents will mount a campaign, often in collaboration with the counselor, to track him into college. Another boy with better grades, but lower test scores and the wrong social and personal characteristics has no chance of being labelled an under-achiever and his good performance will not assure him of a chance at college.[1] In neither case will the counselor provide much career guidance, much solid occupational information.

Apparently the professionalization and spread of school counseling has begun to take on a case-work clinical character; such terminology as "sibling rivalry," "overly dependent," "unhappy at home," "girl crazy," is substitited for the much tougher task of orienting the child to the world of work. The counselors become surrogate parents for privileged children, conductors and gate keepers for less privileged working-class children.

We need a new type of career counselor who will begin to supervise the career development of a child in high school, follow him through his first two or three jobs--for a year or two at least--and provide a continuing guidance through the maze of school curricula, training programs, jobs, and employment services. Obviously, the case load of such a counselor must be light, the pay and the training level high.

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[1] Aaron L. Cicourel and John I. Kituse, The Educational Decision-Makers, Indianapolis: Bobbs-Merrill, 1963.

But what a saving of wasted time, what a gain in job opportunity and satisfaction!

If we need precedents for such a counseling function, we can look at Sweden, where vocational guidance is shared by specially trained school personnel and the employemnt service. "Career teachers," paid in part by the employment service, the main arm of a National Labor Market Board, meet once a month in every county to discuss job information and careers. They receive extra pay and reduced teaching loads for counseling students in their schools, bridging the school and the world of work. While Europeans typically can learn a great deal from the United States about how to develop and run a mass education system, we can learn much from them about manpower planning.

Occupational Information in Counseling and in the Curriculum. A program for diffusion of occupational information through manpower planning--emphasizing strong ties between vocational education, school guidance, and the employment service, the preparation of instructional units on the world of work for every level of the curriculum--can subvert a program emphasizing other educational goals. A narrowly vocational mentality is in many ways incompatible with the new humanistic thrust in curriculum development. Would not the introduction of, let us say, 100,000 career counselors in the schools, coupled with the injection of manpower facts and career development materials into the curriculum defeat the aim of liberating the student? Would these counselors understand the aims of general education, be tolerant of the less immediately "practical?" Would they not become merely another pressure group dedicated to squeezing one more subject into the curriculum, further eroding its academic substance?

Poorly designed vocational materials in the hands of poorly-trained job-oriented teachers and counselors could, of course, weaken instead of strengthen the intellectual and social goals of basic education. However, the kind of occupational information contained in this paper--reflecting themes in the writings of industrial sociologists, manpower experts, and labor economists--should emancipate the student by increasing his range of effective choice, lengthening his time perspective, and encouraging his exploration of academic subjects. Manpower information can enable counselors and teachers to pursue three liberating goals:

1. To combat premature vocationalism--the misguided "realism" that rivets the attention of the student on the first job, instead of the 46-year worklife, on "training" for a job best learned on the job, instead of an optimal base for lifetime learning.
2. To modify stereotypes of occupations--at least to convey a sense of the wondrous variety of work worlds and the rapidity of change in them, and to underscore the typically loose connection between early education and training, on the one hand, and specific jobs, on the other.
3. To counter undue concern about job preparation, and thereby encourage greater concern with academic subjects and the freer flow of intellectual curiosity.

This message is not at all incompatible with the equally important message that there are literally thousands of occuaptions with prescribed entry requirmments or typical routes of entry and advance. Indeed, in the little drama where a student, interested in history and the 19th century English novel, confronts his anxious parents' claim that he "will never earn a good living" if he doesn't "settle down," it would give the student strength to resist his parents' unrealistic stereotypes if he could summon up an example or two from a teacher or a counselor. For instance, "Look at the mass media of communication--press, radio, film, and television; they employ college graduates with majors in English and history. And how about the editing of a company or agency house organ? Or the diplomatic service? What's wrong with teaching?"[1] The schools can and should supply ammunition to offset parental intimidation, while the youngster goes about his business--exploring his intellectual heritage, understanding himself and society, realizing his occupation potential.

A balanced view of occupational information in counseling and the curriculum will free the school for its main academic tasks and at the same time will guide the student toward a wide range of specific training programs and job opportunities and a lifetime of diversified learning.

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[1] Teachers and counselors might well note the plans of the 1961 college graduating class. Spring 1961 interviews with a cross-section of 33,982 graduating seniors in 135 colleges and universities reveal that three in four had plans to go on to graduate school (one in three counting on fall entry); that they were highly "professional," "intellectual," or service motivated in their orientation (only 18 percent were planning careers in business, while 18 percent were heading for the arts and sciences, 7 percent for the traditional professions of law and medicine, and a whopping 33 percent for education); that half of all these seniors anticipated that one of their career activities would be teaching; that the typical student took a "liberal" not a "vocational" view of his education. James A. Davis, Great Aspirations, Chicago: Aldine, 1964, pp. 8-9, 11-13. Altogether this crop of college graduates has a more sober grasp of their occupational possibilities than does the typical school counselor or parent.

A NOT TOO EAGER AGENT FOR CHANGE: THE COUNSELOR IN DR. MICHAEL'S PLAUSIBLE FUTURE

Joseph Samler
Veterans Administration

When we think about what is happening to us, if we think about it at all, we refer to it as automation, correct it to technological change, argue about whether after all it isn't the industrial revolution in 20th century guise, and if we work at it we learn to see it in its own character as something fantastic and frightening, transforming today not into tomorrow but into a day next month or next year and ourselves into--what?

Usually its quite a job to take on even technological change and try to identify some of its characteristics and some of its implications. I know, I've tried it. However, Dr. Michael identifies four technologies--I will reming you of them:

The first is a mammoth management apparatus designed to carry out large scale research and development programs. If you're in government you know it as P^2BS. The National Commission on Technology, Automation and Economic Progress sees great promise in it although doubt is expressed that a sufficient number of properly trained analysts will be available for some time to come to staff such programs.

The second major technology is, to use the term Dr. Michael fathered, "cybernation." Those for whom the term does not trigger breathtaking new vistas, although they be only hazily seen, simply have not done required homework. The literature here is considerable and constantly increasing, is divided and sometimes bitter.

The third technology arises out of the availability of the second. Dr. Michael calls it social engineering, and defines the field as "the systematic application of knowledge in economics, the behavioral sciences, etc., to the design, planning, and manipulation of society and in order to efficiently attain specified goals." Edward Gross reports a friend regretfully saying that no one writes utopias in the grand manner any more. Indeed why should they? The new utopias will be born out of the colds of space, with the computer in a cryogenic bath, with bits coming together at billionths of seconds and tapping the machine's collective memory of the species.

The fourth technology is biological engineering. We will alter the genetic code at will. Once born the organism will be subject to such change as we order (I all but said "program"). The potential controls over human behavior out of chemotherapy alone, as the speaker indicated and for other reasons, for example, breakthroughs in knowledge of brain function, comprehensive and viable learning and personality theory, will be part, I assume, of this great technology. And to think that only a handful of years ago we were frightened of Walden II.

The technologies and their promise or threat are in no way out of the current issue of Analog Science-Fiction. Clear evidence of achievement is now available in all these areas, although whether just these categories would be used might be in dispute.

As Dr. Michael presents them, a congeries of effects flow from the operation of the four technologies. Some are of particular interest to us because they deal with man at work, the nature of occupations and their future. Some of these no longer seem startling but most in fact are. For example, in the years ahead more highly skilled people will be required than our educational system can produce. Great numbers of unskilled, many skilled blue-collar workers and middle-level engineers will find their jobs changed or gone. (The recent record low unemployment rate (of 3.8%), Dr. Michael notes, cannot be depended on to continue.) The middle-management echelons are increasingly being taken over by the computer. Many individuals will have to change jobs a number of times in a working life.

At about this point in my work on Dr. Michael's paper, his ideas began to be patterned for me. Important as his ideas about the changing nature of work are, I felt as I continued to read and feel that to the writer these were the least important results of what we are up against. I also felt that the progression that emerged, because there is a progression, was not necessarily planful or deliberate. This too seemed quite important to me. We start with new ways of earning a living but end with a new way of life.

We are referred next, and of course the idea now as before is too attractive to cite and leave, to the problem of identity when the occupational core of identity may be gone. This is a point, therefore, to which I must return.

The speaker sees a new range of jobs emerging that are interpersonal in nature and that are supportive and helpful rather than manipulative and hostile. This is fair point for the vocational counselor to keep in mind but I think the point is made for keener reasons. He charges us and others with professional possessiveness and I believe we should examine the problem if not as an inquiry into the sociology of professions then to find out what we are about in counseling.

If this last point, quite important to us, is skipped for the moment, the progress is to the difficult problem of the kind of school regimen that brings the nonexploitive person into being. This is exciting fare. Out of my own needs perhaps, and taking into cccount Viet Nam, sex, nuclear war, man in space, I believe that this is our major problem.

I must come back to this problem as well.

Work and continuing education are seen as constituting an on-going, intertwined whole throughout life. Careers, Dr. Michael suggests, really will mean work-and-education, one presumably as continuous as the other. If you recall, the contrast offered is with what now obtains. When education ends, at whatever level, one is set for life. Dr. Michael says that for more and more people there will be no more being set for life. That this is a real issue there is no doubt. However, its applicability to a great proportion of the labor force seems a fair question.

I keep on having the feeling, and it may be quite ungracious of me, that Dr. Michael's last major point on career choice in our transforming society is really a lead-in toward issues (I hate to say this about out bread, butter, and even martinis and hors d'oeuvres) that transcend what we are about. Work, career choice, "happens in a larger context of activities and values than just those associated with work." The reference here is only in part to the fact, now understood but really only given lip service, that work consists of much more than a set of duties. Dr. Michael identifies two contextual factors which he sees playing an increasingly important role in decisions about work. The first is leisure, the second is a sense of political potency.

Increasing leisure flows either from increased productivity from the new technologies or from displacement of the worker by the machine. In the paper we have heard, only 2, 3 minutes are devoted to this anxiety fraught area and it is not leisurely enough. I commend to you the more systematic, eye-opening treatment of the new leisure in a booklet called Cybernation, also as it happens by a fellow named Donald N. Michael. The problem as encapsulated in the address, is "to weave work and leisure together so that leisure is, in whatever form, a means of cultivating and cherishing the self." I believe this task and the problem of organizing the school regimen that brings the non-exploitive person into being are parts of the same curriculum. I've indicated that I will need to come back to this problem.

There are other points but I can afford only a limited budget of items for reaction and so must go on to what seems to me to be Dr. Michael's insistent and major concern.

We face most serious problems in transforming our society and will require the use of sophisticated and complex technologies and programs. This is an issue which Dr. Michael developed at greater length in his Seminar paper Cybernation and Social Change for the Department of Labor in April 1964. The point is that the controllers of the great and delicate machines, these mental juggernauts of our time with on-line storage as in the IBM 360, of 50 billion digits, become in fact the controllers of our destiny. It is not only that there are circuits in the institutional programs which are self-guarding so that the information which is provided is self-serving. For various reasons the results will be that we will have inadequate access to the factors which should go into assessment of given probrams. We will not know what to look for or what questions to ask. All of this begins to sound most unhappily like the death march of a political system and a way of life.

It is notable that the even-toned Report of the National Commission on Technology, Automation and Economic Progress states concerning this problem that:

> "Forecasting the future is not a task for government alone. In fact, the concentration of forecasting mechanisms entirely in hand of government, particualrly at a time when such forecasting becomes a necessary condition of public policy, risks one-sided judgments and even supression of forecasts for political ends."

In this dispiriting situation Dr. Michael asks two sets of questions. How curious that despite the fact that Washington is not Athens (sic) and that despite superficial resemblances the IBM 360 is not the Delphic Oracle, the questions are age old. How are we to teach people to be comfortable with, sensitive to, and aware of complexities? How do we teach people to be comfortable with and embrace change and the process of change?

These are important questions I do not know how else to understate them effectively, but they take distinct second place to a theme which appears and re-appears in Dr. Michael's paper but becomes dominant only at the end of the presentation. All ways lead here but the particular road sign we follow now is that the new potentials for abuse of power are so great and so readily at hand that some controlling safeguard is a prime need.

This iteration and reiteration of the problem of ethical living and I think it has not been posed before in vocational counseling or in the curriculum on career. I know of no chapter in any counseling text that is titled "Micah and the Nature of Man" but perhaps it is high time. If you think I am putting on, I remind you of Dr. Michael's specific question, "Do we turn our backs on the kind of career 'education' which includes clarification of the ethical setting for any career and concentrate instead on training for work and play, thereby encouraging the student to ignore the meaning of a career beyond private gain and private satisfaction?" I can edit the sentence but I cannot touch the issue.

The ethically bound human being, the nonexploitive person, the one who is capable of cultivating and cherishing the self--these seem to be different ways of describing the mature, the loving and productive human being, and I believe I will be warranted in treating the problem as one. As I think on it, one of the first of Dr. Michael's points, the problem of identity if occupational identity gives way, must also take its place as a problem in emotional well being, so this too can be poured into the same gleaming, many faceted vessel.

After this editorialized recapitulation of Dr. Michael's seminal paper, I propose as economically as I can to pick up the particular issues I have identified that itch me enough so that I have to scratch.

The first of these issues I invite you to look at has to do with our zealous professionalism. Dr. Michael talks about the need to bring into being a series of jobs, aides of various kinds, that depend for their effectiveness on relationships between the aides and those served. However you feel about his observation, I recall to you that you are not likely to characterize it as an understatement. He says "Many professions persist in maintaining an egregious possessiveness about every aspect of their activities and a most unbecoming superiority about the prerequisites for competence which make it exceedingly difficult, often impossible, to establish the needed occupational roles!"

I have singled this point out, some may be surprised to hear, in order to agree with it. Perhaps this should be done only among friends where I hope I am. With others I have listened to the unclear arguments for and against subprofessional roles and have felt as righteous and defensive as any self-concious professional about what "they" were trying to do to us. But it won't wash. Despite the temporary victories an edge of uncertainty remains.

I have grown to feel that our formulization and conceptualization of our own field may not be valid or productive. We have taken it as an article of faith that counseling is a good in itself and since it is such is universally applicable. The professional credo is offered despite evidence at least of non-acceptance by and perhaps also of its non-applicability to specified groups. Characteristically the counseling population is oriented toward conversation as a prime way of looking at problems and is comfortable with the personal relationship context of which so much of our belief in change rests. I've noted elsewhere that mostly the group that knocks on the counselor's door has some kind of belief that the service is useful, an expectation that there is a range of choices available to them, and a reasonably optimistic view of the years ahead. It seems clear that this cannot describe more than a restricted group.

Could we conceptualize the problem differently as one of learning to take on work roles and to function productively in work? Counseling is an important procedure in this general task, at its best facilitating personal development through vocational development. However, taking the wide view of a total population and the need to serve many kinds of clients, it becomes clearer than it has been, that counseling is only one means of helping people to relate themselves to work, and in helping them to change when in order to work, change is desirable. That this involves some assumption of responsibility by the counselor is evident and we ought not to horse around about it. I am enough impatient with the opposite, pious profession to compel me to note that anyone who maintains a classic (and impossible_ neutrality cannot ever have worked with the disabled, been exposed to a rehabilitation workship, or faced the problem of motivating disabled persons who despite their evident need apparently could not care less about rehabilitation.

I have presented the problem more systematically elsewhere and am not warranted in presenting a reconceptualization in detail here. So I must indicate only that a range of client-counselor activities should start obviously enough with the client's needs in a context of work related behaviors. Diagnosis of lacks can be quite specific, for example, inability to follow supervisory order, or lack of knowledge of how to conduct himself in the employment interview. What is quite clearly left out of the picture is a therapeutic drive, but the why and wherefore of this is another story.

Given identified deficiencies, various techniques can be utilized for correction. Information-giving as for job grooming can become very important. Audio Visual aids and programmed texts can be useful. Skill development has its own long history and techniques. Although it sounds quite horrendous to say, extensive staff collaboration on specific type cases is for critical examination, as are other carry-overs from the ambitious one-to-one counseling relationship.

All of this and more has specific meaning for the kinds of roles that are established. If a high school graduate can provide specified kinds of information to clients why use a master's level counselor? If an experienced employment worker can lead group sessions in role playing the employment interview, why use more highly skilled personnel? Except for its contribution to his own growth, why use highly trained counseling personnel for job finding, setting up OJT programs, assisting persons in training?

I've already called to attention Dr. Michael's concern for the difficult times ahead of us and our great need for the ethically bound human being. Dr. Michael describes him, I remind you again, as nonexploitive, loving and self-cherishing. How satisfying to put so clearly not only the two critically important emphases in living, implementing and safeguarding each other, but also to make quite plain the central core of emotional well being, an inevitable and healthy interest in self. I offer free for nothing because it seems so very much in point, Erich

Fromm's flyleaf citation (in Escape from Freedom,) from the Ethics of the Fathers, out of the Hebraic Talmud:

> If I am not for myself, who will be for me
> If I am for myself only, what am I
> If not now, when!

To raise the issue at all, as Dr. Michael does, argues a basic optimism. Because no matter how hard pressed we are, how desperate the situation, to point to what needs to be done is to invest in such possibility at the very least a hope that surcease, a measure of safety, a way out will be found. I have already cited Micah and don't want expecially now to be associated with Jeremiah, because for one thing I have just exhausted my biblical scholarship. And yet the only reason we continue to suffer the way we live is that we have become deadened to malodorous conditions and are stone blind.

I am not trying to make an academic point. I will remind you of a few bitter things.

Fifty thousand human beings are killed on our highways annually. Four million more are injured each year. Who gets excited?

Our prison system is an affront to man, does not accomplish its purpose and in fact reinforces socially inimical behavior.

Although we pull and push in this dreadful area, we (and others) still wage war.

In the midst of riches there is debilitating poverty; in sections of the country which particularly claim honor as a birthright the humanity of other human beings is denied. How can there be honor without humanity? Even the lowest unemployment rate on record still stands for 2 3/4 million workers, representing with dependents perhaps more than 4 million persons. At that there are factors in the employment picture which make the 3.8% suspect and which in any case includes unemployment rates in particular groups which are up to five times the average.

Cynicism is widespread. When in many areas of living the choice is between a human life and a buck or a million of each, there seems little choice about which wins. The basic question is whether the competitive spirit, so deeply rooted in our way of life, can be reconciled with the cooperative spirit fostered by the best in education. In many places there is too often a profound disregard of ethical behavior. It is difficult to say which is more dispiriting, the lack of ethical behavior, of the lack of indignation about its lack.

Of course, this is not the entire picture. If it were, Don Michael and many of us wouldn't have a prayer. If it were, all we could do would be to sign a petition to the All-high, urging him to start all over again with some other species, some other type organism, bees maybe or elephants, or porpoises.

But there are other signs. Perhaps the most important is the idea that man is no longer at the mercy of economic movements, that depression and inflation can be controlled; that man and his needs come first. The acknowledgment of the centrality of the human being constitutes a major revolution. Civil rights legislation and a long overdue firm and unequivocal stand by authority (thereby reassuring many who equate faith and trust with lack of firm intention) constitute a broad invasion into the dark land of ignorance and prejudice and hate. The burgeoning of a service ideal so clearly evidenced in the Peace Corps, I hope indicates that the seeds of this great flowering are everywhere viable and need only a proper climate to blossom.

Contemplating the total situation I do not see how it is possible not to be troubled. And yet one cannot prepare for chaos. We must do all we can do and maybe it will be somewhere near enough.

Concerned with the production of the loving and competent human being, and the repair of those who are not, it becomes apparent very quickly that curative work and reconstruction, and especially so on an individual basis, is a losing battle. The issue is joined in preventive work on a mass basis. This is an area for curriculum and particularly at a school level where there is close to a 100 % population exposure.

I do not know anything much about curriculum but it must be safe to say that it extends beyond the day-by-day lesson plans and the sequence of subject segments to be covered. Surely it starts with educational policy at the level of the elected Board of Education. How marvelously enlightened many such Boards are is only too well known and is attested to by forward looking policies, encouragement of investigation into personality, a tolerant attitude about text books, and so on. Curriculum policy and management surely must include also the atmosphere of the school and the models provided by administrators in their relations with teachers and, of course, with the young people on whom the entire enterprise is centered.

I may not be true anywhere else, although I do not believe it, but in a curriculum aimed at achieving Dr. Michael's healthy human being perhaps the most critical part is played by the teacher. The work of the leading teachers in mental health reveal this clearly in the training Moustakes provides at the Merrill-Palmer School, the program at the Institute for Child Study an the University of Maryland, the exciting work done by Barbara Biber and her colleagues at the Bank Street College of Education, and even in its more intellectualized form in the causal approaches at Iowa with Ralph Ojemann. Elsewhere I've had occasion to note that this kind of training constitutes a basic exploration of self.

I think I am not justified in presenting the actual training program in any detail. This also is available elsewhere, as many know. It is proper to say, and this is my central point, that perhaps up to eight to ten differing programs are being promoted in helping to make the healthy teacher and through her, the self cherishing, concerned, loving, as well as competent child. With this child grown to man's province and making the hidden decisions that Dr. Michael talks about, I have some hope that the bases for the decisions will be in part a weighing of what seems right and what not right. It is not as silly as it may sound because decisions so made do not use as reference points personal gain, political expediency, making brownie points with the big brass, and just plain covering up. This alone would be a great blow in the battle of man for the forces of reason.

Given such a human being, moreover, the problem of the lost identity supplied by work may not be a problem at all. When the individual accepts himself because he is himself, his self-respect will not depend on his work as an accountant or auto-mechanic or psychologist, or whatever. Because self-sufficiency and productivity are important to him, work is also, but it is not the reason for living.

In the context of the problem as Dr. Michael puts it, it is good to know that there are not only trails but clear roads. On the other hand there are so few. I wonder how many (or how few) teachers are affected, and in turn how many or few kids, through training at the centers like Band Street. How can we increase the number? Money helps and perhaps a great deal of money helps a lot but it isn't the complete story. And there is the constant opposition, built in, between competition in business and industry and in living, and cooperation and concern for others.

There is one more job to do using the springboard Dr. Michael's paper provides.

Something less than two years ago, and in part using some of the ideas in Dr. Michael's Cybernation, I tried to trace the implications of technological change for vocational counseling. I thought it might be interesting, at least for me, and possibly also useful, to see whether with these two years gone by, there are changes in the implications for counseling, at least as one person sees them. If the implications for counseling can be seen, perhaps some ideas can be gathered for curriculum.

Out of the 1964 discussion came perhaps a half dozen points important for the work of the counselor. The idea that the shape of the world is changing, that new fields and occupations crowd the scene, for example cryogenics, micro-electronics, ultrasonics, computer technology, and that the working condition may be quite different, for example, that the technician may have to relate to machines rather than people, is of obvious importance to the counselor as information, and in terms of understanding the emerging world. It is also clear that pupils should be exposed to, taught, and helped to learn about these changed and changing conditions. They must become background for their own occupational decisions.

Another major point that inevitably developed from the data on changing occupational demands and the employment and unemployment picture dealt with the premium on training and skill. As a controlling factor in securing deeply-felt personal as well as suburban living types of rewards, this also should constitute curriculum content as should the value orientation that what there is in talent is to be used (Maslow, Milton).

Even if the shape of the work setting were not in many ways changing, but especially because it is, our knowledge and appreciation of the psycho-social factors in work should be taken into account and made part of the ordinary school training of pupils. We are involved here in job satisfaction; how can it be news and especially to this audience, that there is considerably more involved in contentment on the job than is comprehended in the information about duties, pay, advancement possibilities, and education and training required?

The literature on technological change continues to reflect, as has Dr. Michael in his paper, the projected instability of the job, although most commentators admit that the professional will not be as greatly affected. I have difficulty with the idea because the information I have, from Miller and Form, Davidson and Anderson and, more recently, Wilensky, I can not quite tell what is new about job changing in the course of a working life. In any case this is really not the issue, which rather has to do with the help that might be afforded to those who do change jobs, perhaps not infrequently. The help we can give is in training in decision making in a vocational context. This view of vocational counseling is well known although some who see in vocational counseling and its associated decisions a critical developmental task feel that education in decision making somehow is low class. Both views are valid, depending on the particular problem. If there can be agreement here, training in identifying a problem, determining the type of information one should have in considering the problem, securing it and weighing it, all of this ought to be part of the larger process we call education. Surely as an important part of the life of reason in all of its aspect this needs no defense.

There are other issues which might be examined for continued pertinance, for example, the perennial problem in psychology of motivation. Its importance in context lies in the difficulty of arousing interest in the displaced for retraining. It's pretty strange to consider that motivating men to prepare themselves for other work constitutes a serious problem, but it does. There are still other issues that translate themselves pretty readily into curriculum considerations; for example, our developing ideas and information about the trainability of abilities including, whatever it is, general intelligence.

There are issues that were not brought forward before but that warrant attention. A number of signs show that the computer will be used to organize at least some of the data that the counselor uses. One thing about Iron Sam is that he has a faultless memory and that he is incapable of making his own mistakes. Don't just yet throw away your Manual of College Freshmen, the Occupational Outlook Handbook, the normative data on the tests you use, but maybe pretty soon, pretty soon.

I will complete my task with a hazardous venture. In Dr. Michael's very last point, he offers an idea about ourselves so disturbing that many protectively may not have heard it. The problem again is the production of the ethical human being. We are told here that to say to kids "do as I say and not as I do" is for the birds; that if we do say it it will subvert what we are about. This refined way of putting it is my contribution. What Don Michael says is that it will twist it into a nightmare. He says: "Unless we are prepared to change ourselves . . and our institutions, unless we are prepared to risk status and preferred perspectives in order to prepare youth to embrace tomorrow's new opportunities and cope with its threats, we will fail."

This is a sizable charter and fraught with anxiety. Whether one enters the commitment by helping with voter registration or joins the picket line (and I notice that suddenly I use the depersonalized third person, thereby separating myself from the problem), I cannot say--who can decide for others? I do note that this is a part of the general issue of involvement of the counselor in social movement. Our professional stance argues against such involvement other than as private citizens. But the new forces pressing upon us raise these questions again and perhaps we should not play it quite so safe. The question came up at Greyston and comes up elsewhere. The helping professions are concerned with the cultural and economic conditions that affect the individual. We are enough used to finding OJT opportunites, helping parents to reconcile their differences in the client's interests, or even, mind you, offering ideas on the school curriculum, as not to regard them as environmental manipulation. If using our influence to make available greater scholarship aid is OK, why not other social action which is in pupils interests? Are kids who are ill-housed, ready to work, study, develop? What is our stand about discrimination in employment? Should we not do more than look regretful in talking of quota systems in professional schools? Should we lobby for increase in the number of supported jobs in the hospitals, schools, recreation centers? Why should we not? What else should we do?

I do not know for sure that we should. I feel that the forces that move us are new, a different value orientation prevails, and that a new role awaits us.

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SUMMARY: CURRICULAR IMPLICATIONS FOR CAREER DEVELOPMENT

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The Need for Career Development

The purpose of this paper is to summarize the conference presentations and discussions with respect to the implications of the field of career development for curricular change. It should be understood that, although the ideas and suggestions presented herein have stemmed from the conference dialogue, they have been interpreted and evaluated in light of the writer's educational and vocational background. It should also be recognized that because of the difficulty involved in giving credit to the appropriate conference participants for the various ideas expressed in this report, little attempt has been made to do so.

If any one significant outcome of the conference can be singled out, it is the general agreement that emerged among the participants that career development is an important factor in the education of the individual. It was also brought out clearly and emphatically throughout the conference that career development extends well beyond the acquisition of occupational information. One's values and attitudes toward work are of equal, if not of greater, importance than the possession of knowledge related to a given vocation. Throughout the conference it was made evident that one's orientation to the world of work is a vital element in his attainment of a rewarding and ego-fulfilling style of life.

Murphy (1966) discussed the classifications of incentives to which the individual responds in the world of work and pointed out the need for a new approach to finding meaning from one's personal effort. According to Murphy, man's motivation to engage in work stems from (1) the personal satisfaction that he gains from the products of his won efforts, e.g. the pride that a craftsman experiences as a result of a job skillfully done; (2) the competitive types of rewards that one receives according to his degree of success in his chosen vocation or profession, e.g. recognition, special privileges, prestige, and honors; and/or (3) the material rewards that the individual can purchase from his earnings as a worker.

Although man may be motivated in his work by various incentives, the deep-seated ego-fulfilling experience needed to become a well-adjusted personality and contributing member of society can stem only from the intrinsic motivation that is realized from his pride in his own productivity. Motivation that is based on competitive or material incentives is extrinsic to the individual's work and less satisfying to one's ego than the personal rewards gained from intrinsic motivation.

Our present-day society which has resulted largely from technological and scientific advancements has diminished the opportunity for the individual to realize the intrinsic motivation that comes from the products of his own efforts. Levenstein (1966) pointed out that the fragmentation of work resulting from new methods of production tends to remove the individual farther and farther from the end product and thus reduces the individual's self-concept as a producer. As automation increases, the alienation of the worker and the product is certain to increase. If the producer is to have pride in his work, "new concepts of meaningfulness will have to be evolved." According to Levenstein (1966), the problem is to restore "the individual's involvement in the tasks he performs but with a new understanding of their nature." Men have to be persuaded through education and through the mores of our culture to broaden their perception of their role in society and to develop social responsibility. It is imperative that new ways be found to magnify the psychological incentives of the world of work and career development.

Murphy (1966) also pointed out that the task of developing intrinsic motivation becomes more difficult as appropriately work-oriented models tend to diminish in the homes of certain strata of society. As this occurs the school must provide compensatory experiences to offset this void.

Because of the increasing amount of leisure time for people engaged in many types of vocations, there is a need for a broadened concept of career development. Instead of confining its meaning to gainful employment, the idea of considering career development to include any type of purposeful activity has gained considerable support. This expanded definition of work includes leisure-time pursuits that have educational implications for career development.

As one gains more free time from his job, his need for worthwhile avocational interests increase. Both Michael (1966) and Wilensky (1966) pointed out that the segments of our population having the greatest amount of leisure time are normally the least prepared to utilize it in a wholesome manner.

Leisure time properly used can be as ego-fulfilling as one's gainful employment, but the shoddy use of leisure time becomes detrimental to the personal and social well-biing of the individual. The individual's self-concept depends on both his vocational and avocational activities. The fusion of the use of leisure time with one's orientation to the world of work as integral aspects of career development has important educational implications.

The rapidly changing nature of vocations is another factor that gives impetus to the importance of career development as a component of the curricula of our schools. The increased rate of technological development calls for a continuous renewal of knowledge and skills on the part of the individual if he is to remain employed. Automation displaces certain types of workers, particularly the semi-skilled. If schools serve our societal needs and educate youth to be productive citizens, they must find ways of preparing youth to be psychologically and mentally receptive to retraining in order to cope with the changing world of work. Virtually all vocational and professional workers must periodically participate in educational activities to renew their vocational competencies. The need for continuous education throughout adulthood is rapidly becoming a reality.

The many obstacles confronting youth in their career development necessitate improved curricular provisions in our schools. Cognizance must be given to leisure-time activities as well as to vocational interests and to attitude development as well as to the acquisition of knowledge and skills. In fact, career development is an excellent example of an interdisciplinary curricular area that encompasses all three classifications of educational goals presented by Bloom and others (1965)--cognitive, affective, and psychomotor. If youth are to realize the important relationship between the world of work and their personal well-being with respect to self-concept and an ego-fulfilling style of life, the efforts of educators must be coordinated to achieve this goal.

The Need for Improved Communication

Throughout the conference it was evident that the representatives of the various areas of specialization were having difficulty communicating with each other. The vocational counselors and counselor educators were asking the question, "How do we incorporate career development into the school's curriculum?" Some had rather fixed ideas as to how to proceed; others were receptive to any suggestions.

The curriculum specialists were responding, "How do you incorporate what into the curriculum?" Their concept of career development was a bit vague, and, in general, they tended to wonder if there was an identifiable body of knowledge comprising the field.

The vocational educators seemed to view both the counseling and the curriculum specialists with a degree of bewilderment if not distrust. They were implying, "What's the fuss all about? Send us the students, and we will provide them with an orientation to the world of work." The misgivings that vocational educators have of counselors and curriculum workers is understandable since there has been a tendency to use vocational courses as dumping grounds for slow learners.

Although there is an element of facetiousness in the preceding questions, they characterize the need for improved communication between the various educational specialists. The discussion sessions of the conference undoubtedly clarified many issues and contributed to a delineation of the mutual problem.

The conference participants representing the field of counseling, all apparently well-informed in the field of vocational guidance and counseling, were seeking ways of making curricular provisions to reach the desired behavioral goals of career development. Being knowledgeable of the research and related published material, they were agreed that career development should be a component of the school's curriculum. It was clearly brought out that the major problem confronting vocational counselors is how to incorporate this field of learning into the school's program in an effective manner. Some indicated that a special course was needed at the high school level. At least one counselor educator took the position that the desired outcomes could not be attained short of a sequence of required courses throughout each year of the high school program. Others felt that a sequentially planned series of instructional activities permeating various subject fields in grades one through twelve would provide the most plausible solution.

The curriculum specialists, possessing little knowledge of career development research and related literature, were apprehensive about the nature of the content of curriculum development. They were in agreement with the counseling specialists that a proper orientation to the world of work is of basic importance to the individual's life style. But they were skeptical as to whether or not the vague generalities that were being tossed about could adequately serve as the basis for curricular change.

Being well indoctrinated in the need for structure, the curriculum specialists saw the need for deriving basic concepts, generalizations, or teaching objectives in order to establish a foothold for formulating meaningful instructional activities. There was some confusion as to what the behavioral outcomes of career development should be. These have not been precisely identified and verbalized except in a general and somewhat vague manner. Much of the literature to which the participants were referred in preparing for the conference, although helpful in broadening one's knowledge of the problems of career development, was much too intangible for curriculum workers to utilize as a basis for developing a curriculum.

A partial solution to the problem of faulty communication would be a program of cross training for the specialists involved in formulating a curriculum for career development. Vocational counselors, for example, need to have an understanding of the theory and practice of curriculum development; vocational educators need a knowledge of the contributions of counselors and curriculum specialists to career development; and curriculum workers need a better understanding of career development and the role of counselors and vocational educators in attaining its objectives. Increased mutual understanding of each other's role in developing an improved program of career development would give impetus to launching a major project in this field as well as to improving communications.

Curricular Problems and Implications

For many years schools have devoted attention to vocational development in one form or another. However, because of present-day trends in home and family life, revolutionary changes in the world of work, societal changes, and many other factors, the curricular provisions of the traditional school for vocational counseling and career development will no longer suffice. Units of instruction and courses pertaining to occupations have met with only limited success, and will be even less effective in the future. Fommerly, the school's program was supplemented by an early introduction of youth to work and adequate models of adult workers at home. Since an increasing number of today's youth have little or no exposure to work at home and since many youth are without a satisfactory model of an adult worker at home, schools have acquired the major responsibility for providing young people with an orientation to the world of work.

Programs of compensatory education for career development will likely not be provided, however, unless the counseling staff provides leadership in this area of the curriculum. Since many school counselors are not especially interested in vocational counseling nor vocational development, the needed leadership will not be forthcoming in many schools unless a planned program of a national scope is undertaken to call attention to this need. Vocational counseling, particularly for terminal students, tends to be regarded as one of the less glamorous tasks of the school counselor. It was brought out in the discussion sessions that counselors devote an undue amount of time to helping college-capable students gain admission into the "right" college--serving as "talent scouts" for colleges--at the expense of the terminal students.

In order to accomplish the desired goals of career development, well-planned programs of inservice education for both counselors and teachers are needed. A major purpose of such programs would be to bring about an awareness of the need for career development in the curriculum. Even when there is an awareness of this need, the professional staff of the school often lacks the know-how for implementing an effective program.

Throughout the course of the conference various ideas were discussed that have curricular implications for schools interested in undertaking a program of career development. Some of the ideas were based more or less on conjecture or perhaps folklore, but some were based on empirical evidence. In either case, the summary reports of the discussion groups contained the following items which may be regarded as guidelines for implementing a curricular program for career development.

1. Providing a quality general education program that will serve as an optimal base for the individual's career improvement and vocational change is of fundamental importance in a curriculum designed for career development.

2. Curricular provisions for career development must incorporate knowledge of the individual's abilities and aspirations together with an understanding of the intrinsic satisfactions that may be gained from various types of careers that are within his interest and ability range. The student should be provided an opportunity to sample these satisfactions in real or simulated setting.

3. The individual needs to understand how ths differences enable

him to make a contribution to society. He must know himself and understand his vocational potential in order to attain self-realization and to be a contributing member of society.

4. To achieve the desired goals of career development, a developmental sequence of individualized instructional activities and counseling is necessary. Much information about the individual is needed to design the most effective program.

5. The career development program should be comprised of increasingly complex objectives and instructional activities that are distributed throughout the curriculum in grades one through twelve. The sequential program should be carefully articulated both vertically and horizontally for optimum results and should contribute to what Gardner (1961) refers to as "perpetual self-discovery, perpetual reshaping to realize one's best self." The attainment of these objectives--cognitive, affective, and psychomotor--should privide a large measure of intrinsic satisfaction fot the student.

6. The school must provide models of well-adjusted workers to compensate for the lack of adequate family models. The teacher's exemplification of an individual who realizes satisfaction and ego-fulfillment from his job serves as a positive indentifying figure with respect to the world of work. "Teaching by example is teaching at its best."

7. Summer school programs should be encouraged that are devoted to career development. If properly designed, such programs could be funded under the Elementary and Secondary Education Act of 1965.

8. Experimental programs in the use of electronic computers for storing and disseminating occupational information and for providing career development exercises and decision-making problems in a vocational context should be undertaken. Training in problem solving is an essen-

tial ingredient in preparing youth for the world of work.

9. Cooperative work-study programs make a significant contribution to the career development of some individuals and should be expanded to reach more students.

19. Secondary schools should provide help for young people in bridging the gap between school and employment. Follow-up programs under the supervision of "career counselors" who are prepared to assist the individual with his career development problems after he leaves school are recommended.

11. Career development programs should encompass activities designed to prepare students to engage in leisure-time pursuits of cultural significance.

12. Curricular provisions for career development need to include "second chance" or retraining programs for young people who have met with failure in the world of work or who desire to change vocational fields.

13. Career development should be taught as self-development. The student should realize that a close relationahip exists between the educational process and the attainment of vocational competence.

It was repeatedly brought out in the dialogue of the conference that the attainment of the desired goals of career development will require the cooperative effort of all of the professional workers of a school. To solve the problem of providing for the career development needs of youth will require professional educators to forget their hyper-specialized roles as school psychologists, school counselors, vocational educators, vocational counselors, curriculum specialists, classroom teachers, and administrators. Each person needs to think of himself as a member of a team of educators that is attacking the problem of career development.

A Strategy for Implementation

Pressure is exerted from many quarters to incorporate more and more areas of learning into the curricula of our schools. Because of these many pressures, school administrators and teachers tend to resist attempts to add new content areas to the curriculum. For this and other reasons, careful planning will be required to obtain the cooperation of the various groups of professional educators who are needed for the successful implementation of career development into the educational programs of our schools. The conference participants, however, were generally agreed that once professional educators became aware of the need for career development together with a knowledge of the desired behavioral outcomes, their cooperation would be forthcoming.

An important question at this point is, "What strategy should be employed in order to make the most significant impact on the curricula of the nation's schools?" The answer to this question is not readily obtainable nor clear cut. Curriculum specialists would not agree as to the best approach to use. However, most would agree that the sporadic dissemination of information and an occasional conference of interested educators will not accomplish the desired goals.

The idea of having a National Task Force for Career Development emerged from the small-group discussions of the conferenceas a plausible approach to attacking the problem. It was felt that the National Task Force on Economics Education (1961) could be used as a prototype. The task force would, of course, need financial support from a government or private agency. Hopefully, through a study of career development theory and research and a synthesis of the available literature one or more landmark publications would evolve that would provide guidelines and give impetus to programs of curriculum development in grades one through twelve.

The over-all process for developing a new curriculum of career development for our schools could involve the following stages which have proved successful in other curriculum development projects:

1. Assessment. Any curriculum development project should be based upon that which is already known--the experience of the past. An attempt should be made to determine the status of career development in today's schools, to identify and study the more successful programs, to develop a graded bibliography of available materials and instructional activities related to career development, and to acquire knowledge of the problems confronting youth in career development. This phase of the curriculum development process should utilize lay advisory groups as well as committees comprised of various types of professional educators. School administrators and principals should be included. According to Brickell (1961), the undertaking of significant curricular changes depends "almost exclusively upon administrative initiative."

2. Formulation of objectives. A hierarchy of objectives of career development is needed. A statement of broad general objectives should be supplemented by a sequential set of specific teaching objectives to serve as guidelines to teachers of the various grade levels. As previously mentioned, the objectives of career development must incorporate all three types of behavioral outcomes--cognitive, affective, and psychomotor. An alternative procedure would be the formulation of concepts or generalizations to serve as guidelines.

3. Identification of body of knowledge. The body of knowledge that is pertinent to the attainment of the objectives of career development needs to be identified, selected, and organized. Since this content is interdisciplinary in nature, the cooperative efforts of vocational

counselors, counselor educators, social psychologists, sociologists, curriculum specialists, vocational educators, and others are imperative for the accomplishment of this task.

4. Development of curricular materials. After surveying the available instructional materials, individuals and teams of specialists should be recruited to develop needed materials on career development. Materials for the various grade levels that incorporate the appropriate body of knowledge and suggested instructional activities are needed. "Packages" of career development materials of various types including films, filmstrips, games, tapes, programed booklets, and graphics should be developed and made available to schools. A landmard publication or task force report for educators that clarifies the basic objectives, concepts, or generalizations of career development together with suggestions for curricular implementation should receive priority.

5. Field testing. The "packaged programs" and other types of materials should be tried out in a variety of school settings to determine their strengths and weaknesses and to obtain information for their improvement.

6. Dissemination. The revised materials should be disseminated through the use of demonstration projects, teacher institutes, conferences, and other plausible methods. Foshay (1966) emphasized the need for bringing about change in the professional preparation of teachers. Teacher institutes and other types of inservice education programs have proved of value in some of the recent, national curriculum studies.

7. Evaluation. The services of specialists in educational evaluation should be secured to design a continuing evaluation program of the career development materials and projects. Follow-up studies of students provide valuable information for curricular evaluation. If youth meet

with difficulty in solving their career development problems, curriculum improvement is imperative.

Concluding Statement

From the viewpoint of this summarizer, the major accomplishment of the conference was its contribution to the realization of the participants of the significance of making provision for career development in the curriculum. The presentations and discussions clearly delineated that the world of work in our society is changing at a rapid rate and will continue to do so, and these changes significantly affect the style of life of virtually every citizen. And, further, as educators we are confronted with the crucial challenge of providing educational programs for youth that will enable them to achieve a satisfactory orientation to the changing world of work that is commensurate with societal needs. To accomplish this task, a well-planned strategy and the cooperative efforts of professional educators will be required.

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SUMMARY: IMPLICATIONS FOR COUNSELOR EDUCATION

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This summary must be to a great extent personal. Each participant has his own mental and perhaps written set of implications of this Conference. I hope that some of the ideas and concerns each participant has will emerge though, to some degree, in this summary.

Through the diligent efforts of the discussion group recorders highlights of the five small discussion group sessions have been prepared. Each participant had a part in those reports. Those comments plus the presentation of the formal conference papers, the reactors views, and the discussion in the major sessions represent the basis for this summary. By way of explanation it must be said that the excellent papers presented here had a two-pronged effect on this summary. First, they had many direct implications for the topic. Second, they had a substantial influence on the direction the discussion group sessions took.

Time and space do not permit the full enumeration of all conference implications for counselor education. I have selected nine that seem to be most representative of the collective conscious of the Conference. Three of these seem to be of major importance. The other six are significant, but, in my judgment, to a lesser degree.

IMPLICATION NUMBER ONE: To execute any change through Counselors or Counselor Educators we must be aware of the strategies for curriculum change brought up in the excellent paper by Arthur W. Foshay. It will not be enough to design, develop and carry out a grand strategy the is "IN HOUSE" or solely in the counseling field.

If we are going to implement career development theory and research through the curriculum, we must bring in local forces: Officials of both the Community and the School. We must work at the "joints" of education or at the so-called position of power--to really get anything done regardless of how right we may think something is on its own merits.

An example that has application for the counseling field that supports this point is the advent of the Code of Ethical Standards of the American Personnel and Guidance Association. This code was the result of several years of diligent effort leading up to its adoption in 1961. But, it was "in house". It has little meaning for educational practice and, though I cannot cite any studies that measure its impact, it seems to me has made no appreciable impact on counselors. Foshay's strategies then have clear implications for us if we really want to bring about any of the changes discussed at this conference.

The changes coming about due to recent federal legislation regarding education seem to suggest our time will be best spent directing our activities to curriculum change at the national level.

IMPLICATION NUMBER TWO: New emphasis on the changing meaning of Work and Leisure in our society. The implication here suggests broader discussion of the topics for their meaning today and over the next two decades--plus an interpretation of the meaning of the terms in the past. Certainly what is called for here is not closure on the topics, because there are differences of opinion as to their present and future meaning. On balance though there seems to be more agreement than disagreement.

There was a good deal of attention given to consideration of these terms in the papers and in each discussion group. The current literature both popular and professional also reflects a growing interest in them. Out of this dialogue there seems to be an emerging of an expanded and modern concept of the terms, but we must not wait for the final definitions to become firm before we become involved more deeply in the issues. Just because the character of Work and Leisure seems to be in orbit we do great harm not to teach about them at all or to teach the concepts as set and fixed, rather than emerging, growing and dynamic.

IMPLICATION NUMBER THREE: Expanded knowledge on the part of the Counselor (and counselor educator) concerning the Career Development Process. Presently this is dealt with in a limited fashion in university training programs. It is often a part of a class taught by a new staff member in a 2, 3 or 4 hour course with limited scope and content, usually called Educational-Occupational Information. (See the paper by Wray Stowing and Phil Perone in Vocational Aspects of Counselor Education for further elaboration of this point.)

The work groups were suggesting in here, I believe, that counselor educators need to get some new ideas on how to best treat Carreer Development information. It way be that counselor educators are in need of treading or re-treading on what goes into this course (or courses) and how to teach it.

This means at least a good solid review and integration into class work of the contemporary writings of Super, Tiedeman, Borow and others, as well as the array of work in other fields, especially Sociology.

In addition to putting some new meat on the bones of theory, it also has been strongly suggested that new techniques be used for field work type experiences. Here the counselor-in-training should get out into the city, state or regional employment market to know first hand about the entry level jobs, the structure of jobs, expanding job opportunities, long term career development possibilities and other related information.

A final use for career development theory and research for the counselor-in-training is learning how to make this information a part of the total curriculum of the schools. This means more than planning a one shot program life "Career Day". It means learning how to implement career information into the entire fabric of education.

IMPLICATION NUMBER FOUR: Increased use with students of the concept of progressive mastery. This notion came up in the fine paper by Gardner Murphy, and was dwelt upon at some length by the discussion groups. Admittedly it is really a technique, never the less it seems to merit further consideration. The concept, if accepted, should provide a baso for some novel ways of putting some of the career development theory into practice. A kind of programming of career development information through fluid stages with planning of progressive mastery of the stages. The full use of this idea has not been developed here, but it gives promise for some worthwhile study and research.

IMPLICATION NUMBER FIVE: Restudy and re-interpretation of needed worker attitude. This sometimes subtle point shows a need to be updated in the modern idiom. Perhaps this attitude has been taken for granted. The discussion groups here seemed to suggest that it has--and wrongly so. It came through here, and does elsewhere, that things like: Ethics-on-the job, Work habits, promptness, discipline, flexibility on the job, adaptability and the like need to be stressed to students somehow, somewhere--but presently they are not! And they remain essential ingredients in daily work. It is not clear how best to develop this point in counselor education or in counseling practice. It may be that these things can be stressed in games or observations, or perhaps in role playing, the use of skits or group activities. The use of films, film strips or other learning resources should also be considered.

IMPLICATION NUMBER SIX: Stress on Leadership Training in Counselor Education. This point is kind of a technique also, but it seemed to be an underlying issue that weaved itself through most of the discussion group reports. The comments here seem to acknowledge the primary task of counselor education is to prepare practicing counselors, but some group sentiment clearly called for more training of a leadership nature for counselors. Donald Super gave a crisp example of this in our work group by calling for the counselor to orchestrate career development activities in the school.

In the paper by Donald Michael four directions for change were given. Then he spoke of badly needed leadership ab both the Theory and Policy Implementation levels. This is the place where the counselor can use this leadership ability. It will not just happen though and the call is to teach for leadership much the same as it is done in management training.

The possibility was suggested that there be a special staff training officer in Joint or Intermediate School Districts, or possibly at the state or regional level to teach leadership skill to counselors. It can't be left to chance. It must be planned and provided for.

IMPLICATION NUMBER SEVEN: Continue Widening the dimensions of dialogue in counselor education. This surely means developing at the university level a greater understanding, appreciation and involvement with a host of disciplines related to this field. Such as, for two examples, Vocational Education and Curriculum Development. Other disciplines and administrative areas as well are important to include.

This means at the pre-service level seminars, discussion groups and the like. Not just behavioral science courses or a course in vocational education but a real continuous and pointed mix.

This dialogue was also called for beyond education--in the community, especially business and industry, to create a new level of understanding and communication. The need for dialogue was suggested, then, in education and out. Most expressed the feeling that the climate for good communication now with other groups is ripe. As referred to in Number Six, leadership, to take advantage of it, must be encouraged.

IMPLICATION NUMBER EIGHT: Renewed consideration of the decision making process in career development. This issue was stated or implied in several of the papers and brought up in most of the discussion groups. There did not seem to be any consensus as to how the decision making process, as a separate issue, should be dealt with--just that it deserved more attention than it is getting.

IMPLICATION NUMBER NINE: Consideration of involvement in major social issues of the day.

Many of the points brought up in the discussion groups and in the give and take of the discussion in the main sessions related to what the counselor's role (and counselor's orgainizations) should be in the issues of the times--usually of a controversial nature. For our purposes this seems to speak to matters such as job discrimination, restricted opportunities and unequal pay. This idea took on life in Samler's illustration of counselor's marching on picket lines, but in other discussions it was broadened and made more comprehensive. Here, of course, are issues that have meaning for each of us and for our total professional group. It should be clear that this point had no real settlement. There was more conversation than consensus. But it was suggested that it be considered for possible inclusion in some phases of the counselor education program.

IN SUMMARY

There seemed to be none implications for Counselor Education growing out of the total conference content. They were:

1. Utilizing modern means of bringing about educational change.

2. Updating of concepts of Work and Leisure.
3. Expanding attention on Career Development Theory and Research.
4. Building on ideas of Progressive Mastery.
5. Re-studying and interpreting Worker Attitude.
6. Training counselors for leadership responsibilities.
7. Widening of dimension of dialogue.
8. Teaching about the Decision Making Process in career development.
9. Questioning of the role of the counselor in social issues.

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SUMMARY: IMPLICATIONS FOR RESEARCH[1]

David V. Tiedeman
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Structure of Remarks

I have enjoyed my particiaption in the Conference. I agree with Dr. Robert Woods that the Conference has brought realization both to curriculum specialists that theory in career development presently exceeds modern use of it and to theorists in career development that the curriculum represents a concept of complexity greater than their prior consideration of it. These realizations suggest that both groups have something to do. Furthermore, I agree with Dr. Carl McDaniels that the union of education and self which gives rise to career represents a concept in need of considerable revision and augmentation both in our education and in our re-education of counselors. Here lies a job for us in counselor education.

Despite these realizations which spring from the session which Dr. Woods, Dr. McDaniels, and I had with the discussion group recorders last night, I have experienced difficulty throughout this Conference in deciding how I could summarize and augment the many ideas for research which have been inherent in its discussions. My difficulty left me in doubt until midnight last night when the persuasive necessity of performance this morning finally brought me to decide that I would organize my remarks within an overall framework of my own rather than just in terms of the specific suggestions generated in the discussion groups. I do consider myself obligated to include the suggestions you have made in

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[1] A Summary prepared for Invitational Conference on Implementing Career Development Theory and Research through the Curriculum, Airlie House, Warrenton, Virginia, 1-4 May 1966. Summary presented on 4 May 1966.

Conference; I merely think that we can all progress more rapidly if I do not limit my remarks to just considerations raised in Conference.

My decision to use my own linguistic framework to organize these remarks is not taken lightly. I realize that speaking from general theory without detailed reference to specific facts which the theory subsumes represents activity which makes psychologists uncomfortable. Psychologists seem to be most comfortable when limiting general consideration to just those propositions which subsume immediately available observations. Nevertheless I decided to throw myself on the mercy of this gathering because I have found that theory allows me to see what I am without as well as to know what I have supposedly explained.

In testing your capacity for mercy, I call your attention to the fact that my "theory" is merely a linguistic framework. I have certain outcomes which I think we want. Furthermore, I have certain relationships which logically seem to be needed among concepts if persons we seek to help are truly to benefit from our assistance. Within this context of goal and conceptual relationships, I shall attempt to portray both what we seemingly know at present and what we want to know as expressed in the several discussions of this Conference.

You will find that my remarks are divided into five sections. In the first two sections I remind us of the Conference structure. I do so both in terms of its participants and of expectations which its planners set for the participants and in terms of the existing theory which the planners set before the participants, i.e. papers commissioned for the Conference and comment offered by appointed specialists. I then turn specifically to my task of summarizing research ideas of relevance to expectation that career can be facilitated through the curriculum. My remarks on research will: 1) analyze the logical restraints presently inherent in research on career development; 2) speculate on an ideal educational organization in which career can be facilitated in curriculum; and 3) discuss matters which must be investigated pragmatically if the ideal is to become reasonably possible.

Conference Structure: Participants

The Conference brings together curriculum specialists, vocational educators, counselor educators, and career development theorists. The expectation is that curriculum specialists will come into meaningful discussion with vocational and counselor educators as well as with career development theorists in order that improvements along the following lines can be brought into more careful scrutiny:

1) Career development theory will be further incorporated into the curriculum of school, college, business and industry;
2) Vocational choice will come into more explicit consideration at numerous times in the life;
3) Teachers can be brought more into responsibility for career development;
4) Counselor preparation can be reconceived; and
5) Research in vocational education will take a new turn.

Conference Structure: Theory

The Conference was devised so as to consider the implications of career development theory and research for the curriculum . I have become aware during the course of the Conference that this aim is an interactive one. There are not only career development implications for the curriculum; there are also implications of the curriculum for career development theory and research. These latter interests were overlooked in planning the Conference. I shall comment more extensively about this omitted direction of the interaction at a later time. For the present, I want to note a further differentiation in the specific prior intentions for the Conference itself.

Several papers were mailed to you beforehand. Those papers largely dealt with career development. The papers which were prepared explicitly for the Conference largely dealt with career research, not with career development research. Therefore, I will attempt further clarification of the structure of this Conference by examining the premises underlying the Conference papers and comment.

In effect, there are three kinds of ideas which were prepared for introduction into the several discussion groups. These kinds of ideas are: 1) career research; 2) career development theory and implimentations; and 3) curriculum modification because of career research and career development theory.

The career research papers prepared at the direction of the planning committee dealt with the plausible future (the paper of Donald Michael) and with the meanings of work. The meanings of work were portrayed through the eyes of a sociologist, an economist, and a psychologist. Harold Wilensky laid out a bit of the sociology of work and leisure. Aaron Levenstein dealt with the feelings of people at work. Gardner Murphy dealt with the roles of work and leisure in the integration of personality. Murphy's observations make clear the fact that the key concept for personality is activity, not just work and leisure. Work and leisure are aspects of activity which need consideration in relation to their contribution to the psychological well-being of the person as he engages in the systems of collaborating initiatives which are work and of the systems of collabrrating and personal initiatives which are leisure.

The primary purpose of the Conference was to present the theory of career development in a way such that career research could be reflected into the curriculum through this theory. The Conference organization dealt with the theory of career development in three ways. In the first place several papers on career development theory were distributed beforehand. These papers included: a) Carroll Miller's general overview of vocational development; b) Donald Super's delineation of the stages of vocational development; c) Robert Havighurst's consideration of several general tasks of vocational development (particualrly those tasks associated with the derivation of ego-investment in work) and Martin Katz's more extended consideration of two of the educational decision points resident in our organization of secondary education; d) papers on implementation, particularly, Joseph Samler's suggestions for the incorporation of psycho-social data into occupational information, David Pritchard's analysis of the specific phase of exploration in vocational choosing, and Edward Roeber's commentary on vocational choice and the school curriculum; and 5) my paper with Eileen Morley which delineates the criterion of vocational competence as different from the more commonly considered criterion of mere occupational competence. (I shall speak more to my suggestions for implementing realization in vocational competence in succeding sections.)

The second way in which the Conference structure dealt with the theory of career development was through the paper commissioned to Henry Borow. Borow's paper both outlined the historical threads which have been knitted together into the concept of career development and suggested ways in which these threads could be brought into consideration for curriculum development.

The Conference organization attempted further teasing of the threads of career research and of career development theory through the specific consideration of each commissioned paper by a person able to deal imaginatively with the curriculum implications of an area. In this connection, the Conference heard William Schill's statement on the implications for vocational education of Wilensky's remarks, Donald Blocher's behavioral-theorist response to Levenstein's remarks, Robert O'Hara's self-concept theory remarks to Murphy's paper, and Joseph Samler's more existential remarks to Michael's paper.

The third major area of the Conference plan was the curriculum implantation of career research through the theory of vocational development. The Conference heard both Bernice Robert's specific response of this nature to the career development paper of Borow and Arthur Foshay's more general considerations of how a person can influence the curriculum--if he is persistent and powerful enough that is.

Research: Logical Restraints

I have made my review of our positions and roles in relation to the theory of the Conference in order to make us starkly aware that only those in our positions are the ones within which the purpose of this Conference must be realized. It is up to us to specify the theory of career research and of career development which must be brought into the curriculum if we are to help our society benefit from fifteen year's work in career development which has yet to have general effect upon curriulcum reform in the United States.

Our deliberations in this Conference bring us two realizations. One realization is that we theorists in career development need to make much more explicit prescription of tasks and procedures before our friends in curriculum can relate their efforts to ours in ways effective for the specification of our mutual interests in educational curricula. The second realization is that the curriculum has an interaction with career development theory which has not been allowed for in the Conference structure. I am not able to say much of this interaction but I find it advisable to acknowledge its potential effect. As the union of career development theory and curriculum is forged we will need to keep in view the effect which a new curriculum will have on career as well as the reverse.

As the discussions of this conference unfolded, I have mused over the incapacity of curriculum and career theorists to speak to each other effectively. It has seemed to me that curriculum theorists have expected us career theorists to hand over an established set of materials and routines which are already in optimum sequence for building "good little careers for good little people." This expectation has disturbed me; my expectation for the incorporation of career theory into the curriculum is only that career choice emerge into curriculum foreground more frequently in the epistemology of knowledge so that the framing of individually-oriented direction of work activity can become more central but not necessarily more determining in consciousness. Because I am disturbed I have considered it advisable to pause here and to illustrate my point as best I can in terms of the paradigm of research with which the audience of this Conference is familiar.

First consider the formal aspects of research with which we reason. In research, we: 1) fix conditions; 2) specify alternatives and the conditions of their existence as precisely as we can from theory; and 3) assemble data intended in a pre-determined manner to illumine the alternatives. The corollary of the activity of illumination is to have data emerge which favor a previously determined alternative in keeping with our research decision plan. In these circumstances choice per se is not associated with the third step. In fact, in research it is considered unfair to change the plan before the entire sequence is complete. The only allowable deviation in the justice of research is that associated with the logic of sequential analysis. This logic is itself a pre-crystallized form of engaging in experience.

Now consider the researcher who uses the logic of research. The ideas of the researcher are not ordinarily exhausted by a single experiment. The experimenter ordinarily publicizes his research in the closed form of the paradigm of research and then reconsiders goal, plan, and/or choice as he sees fit. Reconsideration alters the paradigm from that of research to that of development. In the paradigm of development (i.e. a researcher doing research), items 1-3 of the above paradigm of research still exist but there is an additional step. In this additional "progress" step of development, goals may change, plan may change, and/or choice may change. In development the logic of research can be employed but the set of research may be varied. In varying the set of research new ideas, issues, tests, and conclusions can be formed and in turn investigated.

Indiviaual development through career development may be conceived as I have conceived the paradigm of development in a researcher. I hope it is apparent from my analysis that research in individual development is incomplete if the concept of revision in individual development is left out. Actually, the concept of revision is omitted from most behavioral research; it just is when the act, not the advanced basis for the act, is the phenomenon under consideration. Since this is the case, I trust it is clear that a great deal of what we have refereed to as "development" during this Conference has not been development in the sense here delineated. "Development" as we have been considering it has referred to sequences. "Development" has also referred to a scientist's surmise concerning the development of another person. However, the research in "development" which so far considered has not included attention to the change in the bases which a person evolves for the justification of his vocational behavior under expectation that these bases will be modified, in fact might even "progress."

Professor Donald Super and several of his colleagues (Super, et.al., 1963) have enunciated this problem. Super has himself 1) defined the problem, 2) considered some of the logical issues in whether these effects can be studied in a logical manner or not, 3) defined several indexes of vocational maturity, and 4) given expression to several metadimensions of self concept. John Crites has additionally produced a measure of vocational maturity (Crites, 1964). Despite the fact that Super and his colleagues have made these critical advances into this problem, they seem to have remained interested in occupational competence (Tiedeman and Morley, 1966), not in vocational competence.

My interest in vocational competence stems from my work with Robert O'Hara (Tiedeman and O'Hara, 1963). In a monograph, O'Hara and I have given definition to the process of becoming vocationally mature through successive differentiation in occupational competences, not to an index of vocational maturation. We have been interested in 1) organization for change, and 2) of differentiation in the human capacity personally to direct changes of vocational nature. These two characteristics seem to me and to Morley to be the heart of vocational competence.

Educational Organization: An Ideal

Warren Gribbons (1959), Martin Katz (1960), and Robert O'Hara (1958) are colleagues who started me in search of vocational competence. Gribbons gave definition to the concept of vocational readiness in his early evaluation of Katz's manual (1959) for teaching about self exploration in relation to education and occuaptional choices. Gribbons has since further clarified this concept and studied its modification over a period of several years. Katz has pushed his own interest forward (see previously distributed excerpt from his monograph) and has made connection of educational and vocational choice with values through the mechanism of decision. O'Hara has delineated self differentiation in relation to vocational behavior and has indicated how this differentiation relates to later success in school and college and to broad field of study while in school and college.

Frank Field (1964) more recently brought me to consider purposeful action central within my conception of self development through career development. Field's original work, although placing the person into a relationship with states and properties which is proper for the study of development as herein delineated, nevertheless achieved a measure which is itself static in nature. If development is to be studied as the fluid concept it actually is, it must be so studied over a period of time but in relation to a stipulated context. This conviction has emerged only recently for me. However, it has haunted me sufficiently so that I have proposed a considerable research venture in order to bring its lines, sequences, and dimensions into bolder relief. I pause here to outline the frame within which I intend to work. I do so because the frame fills in some of the background which our curriculum friends in the Conference have missed, namely a grid of expectations and procedures which might well bring fulfillment of expectations. However, the scheme also outlines a theory of broader perspective that those now available. I ask your indulgence of my alleged "theory." I offer the "theory" merely to indicate the background of my remarks.

Positions and Relationships. We tend to think of the counselor as an ancillary in education. In this relationship to the teacher, the counselor is primarily attributed access to the student through the teacher, or at least through responsibilities conceived as traditional to the position of teacher. I have argued (Tiedeman, 1964) that the counselor and the teacher must each be conceived as entitled to access to the student. My argument is grounded in my belief that this access to student from the understanding of only partical theories of human development protects the freedom of the student by putting him in the position of choosing between competing and compelling explanations while both the teacher and the counselor expect the student to be responsible for those actions which are relevent to his choices. My linguistic framework for the development of self through the responsibilities of career as illumined in the curriculum presumes this relationship of teacher and counselor to student. Teacher and counselor will of course themselves have increased need for communication when this relationship exists.

Goal and Roles. I presume that the prime force for self knowledge is initiative. It is through the experience of action under guidance of initiative that a person comes to know himself most fully.

In education, there are two circumstances in which initiative is expressed by students. One circumstance is when an adult expects the student to exhibit initiative. The adult may be either teacher or counselor. When the student exhibits initiative in this context he does so in a collaborating mode of initiative. The adult expects, the student meets, incorporates, and, hopefully, accepts responsibility for initiative in circumstance orginally defined by teacher or counselor.

In circumstances of collaborating initiative, the teacher has responsibiliby for motivating the student in relation to his subject. The responses of the teacher are bound by this restraint. Furthermore, they are largely bound by the restraint of immediacy in relation to the expectation for mastery of the subject.

The counselor for his part has responsibiliry in the mode of collaborative initiative for bringing the student into the subject of his career. When he is engaged in this endeavor the counselor is similarly largely bound to the subject of career and is largely limited to educational and vocational choices in immediate consideration.

The student may also express initiative without collaborating with anyone else. This is a circumstance which I shall call that of personal initiative. The teacher expects the student to exercise personal initiative in relation to his subject. The counselor expects the student to exercise personal initiative in relation to his subject, namely the placing of epistemology into relation with social action so that a pattern of work and leisure activity will take form in the student's life sphere.

When the student is in the collaborating mode of initiative it is critical that accuracy exist in communication of adult and student in order that expectation, fact, and basis for action may become clear to student as framed from the grounds of the adult. Responsibility for assimilation can be more adequately passed from adult to student if the adult offers his knowledge to the student in the mode of discovery. In the mode of discovery (Bruner, 1966), the adult offers the student resources at his disposal, expects the student to see the more fundamental organizing principles which were known to the adult when the resources were offered to the students, and encourages the student to criticize his performance as he is taught the prodedure of investigation.

As the student is encouraged by teacher and counselor to bring personal initiative into the collaborating circumstance which is that of "discovery" learning, the student is offered responsiblity. As the student accepts this offer of responsibility he may encounter the problem of authority in relation to his acceptance of expectation of counselor or teacher for his assimilation of the facts and procedures of subject and/or career. Furthermore, if teacher and counselor are clever in their work, they can help a student to bring the procedure of investigation to bear on the student's processes of incorporation of facts and expectations. In this more complete condition the student has opportunity to experience insight. The counselor primarily works to see that this condition becomes known to the student, particularly in the realm of career. Imaginative teachers may be similarly inclined in order to give students insight into avenues of creativity in their subjects.

As the student is tutored in the procedure of insight by counselor and teacher he has opportunity to experience awareness of modification in his actions and pattern of thinking on which he founds action. These are rudimentary conscious expressions of self as process. As the differentiated condition of awareness of self as process is practiced more and more, an integrated experience can ensue and the student can become adept at assuming responsibility for his action at the same time that he can keep throught from needlessly interfering with the relatively easy and playful interplay of intuitionand effficiency in action.

I have elsewhere (Tiedeman, 1966) rather fully differentiated the roles of teacher and counselor in relation to the concepts and interrelationships laid out here. Therefore I merely pause now to note that the teacher and the counselor largely differ in the areas of discourse in which they apply their pedagogies. Furthermore, the counselor ordinarily assumes responsibility for helping the student throughout his life to lay out the epistemology of his knowledge in action as such a pattern is continually emerging during his life. The counselor also deals with the student's authority problem in accepting the responsibility which the teacher offers him in discovery of the principles of the teacher's subject.

Schwab (1962) makes a distinction in science between static and fluid inquiries. Static inquiries are those which lay out the relationships of states and properties in relatively narrowly defined areas of phenomena. Fluid inquiries are those which effectively just reason with the limitations arbitrarily imposed on states and properties in static inquiry. It is interesting to see some of the role relationships of teacher and counselor in these terms. Ordinarily the teacher bases his practice on the static inquiries associated with the sub-structures of assimilation and authority in incorporation. The teacher deals in fluid inquiry with the sub-structure of responsibility in incorporation. The counselor for his part deals with the sub-structures of assimilation and authority in terms of fluid inquiry and with the sub-structure of responsibility in terms of static inquiry. The counselor does these things particularly in the realm of career.

Procedures for Implementing the Making of Vocational Decisions

The development of responsibility for vocational acticity during the course of education takes place best, I believe, in the context of goal and role which I have just described, provided teacher and counselor are both free to operate in the complimentary relationship to the student which I noted in the first section. However, these relationships must take place in a context, and with expectation for mastery of numerous procedures, as people grow up and assume work responsibilities and consequences. I outline in Exhibit 1 what I presently think must underlie this curricular system if personal responsibiltty for career is to emerge through the curriculum.

At the far left in Exhibit 1, I have noted age ranges of the stages in vocational development which are in the excerpt from Professor Super's book which was distributed beforehand. I then presume certain grade associations with age and list the responsibilities which I would assign to teacher and counselor alike when I start to assemble and test my

Exhibit I

VOCATIONAL DEVELOPMENT STAGES AND SOME CONCEPTS, RESPONSIBILITIES, AND PROCEDURES FOR THE CULTIVATION OF CAREER DEVELOPMENT

					COUNSELORS			
AGE	STAGE	SUB-STAGE	GRADE	TEACHERS	SELF-AREA	PAST - FUTURE	CHOICE - EDUCATION	CHOICE - WORK
4-10	GROWTH	Fantasy	K-3	A. Play with and on machines. B. Problem-solving behavior.	A. Instruction, supervision of "How to study."	A. Test records for later feedback.		Neighborhood job. Games of work.
11-12		Interest	4-6	B. Continue as above. 1. Why, how did I. 2. Cases (school, home, neighborhood.)	A. Pre (Y T & T - type book). B. Cultivate "Me-They" relationships (interdependence.)	A. Continue as in A. B. Start Vocational Readiness C. Teach Assessment		Broaden occupational frame of reference. 1. Live models. 2. Time distance.
13-14		Capacity	7-9	B. Continue as above. State, nation, conservation, politics	A. Think-act dichotomy. B. Intuition-intelligence dichotomy. C. You Today & Tomorrow.	Continue as above. 1. Abilities 2. Interests 3. Values	Instruction in curriculum choice. (Kats)	Compromise, money. A. Occupational facts/data. B. Styles of work
15-17	EXPLORATION	Tentative	10-12	B. Continue as above 1. Emphasize civics, economics in personal development.		Continue as above, with more resources. 1. USES data 2. Encourage "realism" 3. Present-future	College orientation. 1. College or not 2. Type 3. Individual responsibility	A. Occupational facts/data. 1. General to specific B. How to get entry job. C. Develop work orien
18-21		Transition	13-14	2. Emphasize how to change things.			College major Study-work links.	A. Progression in work orientation. (occupation, job, position) B. Promotion links.
22-24		Trial	15-16					C. Contingencies involved in charge.
25-30	ESTABLISHMENT		17					
31-44		Stabilization	18 and up					
45-64	MAINTENANCE							
65-70	DECLINE	Deceleration						
71 and up		Retirement						

computer based Information System for Vocational Decisions. The grade-age association should be seen as presently, not necessarily, the mode. The effect of societal change will be to elongate the grade-age association. People will engage in education longer and more intermittently.

I explain the several entries of Exhibit 1 more fully elsewhere (Tiedeman, 1965). Therefore, I refrain from extensive comment here. However, I do note that the basis of my division of the responsibilities of teacher and counselor largely hinges on using the good offices of the teacher for general instruction in computer operation and for using his subjects to deal with career implications as such can be introduced from time to time in subjects. I have assigned counselor responsibility in Exhibil 1, a) for cultivating increased differentiation in self, b) for making explicit certain relations of past, present, and future which are essential to the evolution of a thought pattern in foundation to vocational action, c) for dealing with educational choices, and d) for dealing with vocational choices and career progressions.

In order to give the computer a role in presenting facts/data of an educational and vocational nature, a number of routines will have to be developed. I have not progressed far in specifying these routines. However, I do indicate in a small detail (Tiedeman, 1965) what the basic outlines of these routines must be. In brief the routines must first provide for choice access to data in four contexts, education, armed service, occupation, and other. The routines must also provide for access to graphic and printed materials on occupations which are graded from the general to the specific and deal with speculations on several future work organizations which are linked with what must be discovered or provided in order to make the change possible. Finally the routines must provide for the aspects of adjustment and anticipation as O'Hara and I describe them (Tiedeman and O'Hara, 1963)

It is important to note here that the aspect of exploration in the Tiedeman and O'Hara paradigm of differentiation and integration has certain interesting implications for the computer base. If exploration is truly intuitive there is seemingly little that the computer can do to facilitate exploration. The test of our skill in providing routines will be whether we are able to simulate the mode of browsing or not when exploration is in order. Furthermore, we will have to frame the programs so that the primary purpose is to bring tacit (Polanyi, 1958) understanding into awareness by means of another's previously explicit (Polanyi, 1958) understandings.

If we can program for exploration, I think that we can readily then program for the other steps and aspects of the O'Hara and Tiedeman paradigm of differentiation and integration. All other paradigmatic steps and aspects presume crystallization which permits development of a test, not an exploration, mode in computer programs. However, the real problem will be to use all these modes to help the user see how he links steps and stages in order to give meaning to his activity as he attempts to maintain some semblance of continuity while passing through one subject, education, work, marriage, and community discontinuity after another.

Pragmatic Investigations of the Ideal

I have taken as long as I have to provide background for the partial research suggestions which have arisen in the course of this Conference. I do so in order to indicate that personal development through the problem of career, as better embedded into the curriculum of our educational organization, requires a context of considerable magnitude if it is to be grasped in detail sufficient to do anything about it. My discussion in the two immediately prior sections indicates the logical and organizational contexts which I consider appropriate for framing research in career development through the curriculum. Against this framework (or an alternative framework should one be specified with many of the elements which seem to me credible on mere logical ground) I now want to project some of the stated and unstated research problems which have arisen in the Conference.

Sociology of the Ideal. Levenstein and Wilensky made a number of interesting observations about career in relation to sociology. If we know what we want in the way of a developed capacity for personal responsibility in leisure and work activities, it then becomes possible to determine the sociology of the emergence or non-emergence of the developed condition. Neither Levenstein nor Wilensky presume a developed capacity to be possible for all. However, given no limit on time and effort in achieving it, I believe that a developed capacity is attainable by all. In fact, I believe that such a developed capacity represents man's humanness itself. What in our society is detrimental to the emergence of man's humanness? How do these deterrents figure in sociological organization? How can they be modified? Here are some sociological research questions of considerable interest for the intentions of this Conference.

Psychology of the Ideal. Murphy delineated aspects of child development which are relevant to the emergence of personal responsibility in leisure and work action. However, Murphy did not deal with the emergence of this responsibility in a psycho-social framework. Murphy is more interested in how the unconscious lets the conscious operate than he is in how the conscious can illumine the unconscious if the framework of decision and values in the mode of choice is given explicit attention in a system of education.

a. Choice. For me the question of choice and its influence on personal knowledge is a critical issue in psychology at the moment. I have occasionally wished in this Conference that we knew more about the necessity in personal development of choosing itself. I have my wish because I have heard several speakers and critics recommend the easy solution to modern dilemmas, namely, merely eliminating the necessity for choosing from those enrolled in our educational system. Personally, I think that no action could be more detrimental to personal development. However, I wish that we had more studies of this phenomenon and of its contribution to psychological well-being. How necessary is choice? In what areas of life activity should choice be expressed for psychological well-being? How frequently should choice take place? How intense should analyses of choice circumstances be? For whom, under what circumstances, is choice an advantage and a disadvantage? How can we simulate the conditions of actual choice in order to bring a person almost "outside" his society so that he can bring its very static premises into his own fluid inquiry as he chooses? What are the implications of this possibility for "free choice?" For Borow's "subjective occupational foreclosure"? For cultivating the mergence of sub-conscious processes into the fore of conscious processes?

b. Motivation. Motivation is another area of great research importance for our interest in personal differentiation through education, leisure, and work choices. The Conference has heard reference to the coping motivation of Lois Murphy, to the achievement motivation of David McClelland, and to the competence motivation of Abrham Maslow and Robert White. These motivational modes have different rings of hopefulness about them. What are the philosophical implications for Guidance interest in the several motivations? How can competence motivation be cultivated?

c. Stages. Super delineates stages of vocational development which are subject to the restraints of educational and vocational choices presently characteristic of the several ages. If personal differentiation can be cultivated through education, leisure, and work choices what are *its* stages of development? (This is akin to the development of research *by* a researcher as I outlined this paradigm of development in an earlier section.) What is the sociology of the several stages of personal differentiation?

Education for Self Awareness through Choosing. The Conference turned up a number of issues of an educational nature which must be investigated in order to teach us more of the means for cultivation of personal development through career development. These issues are:

a. Content. There is a great need for content analyses and prescriptions which bear on our problem. A number of efforts already exist and each is worthy of careful study as we proceed. For instance, there is Harlod Munson's series of books on the career implication of the several major subjects of the school. There is the work of Martin Katz on decisions and values and of Harry B. Gelatt on the teaching of decision-making. There is the work of Martin Katz, Benjamin Shimbere, Warren Gribbons, and Robert O'Hara on the use of abilities and values in self differentiations. Finally there are the works of Walter Lifton, the United States Employment Service, and the College Entrance Examination Board which provide considerable bases for occupational and educational information on which personal differentiation through education, leisure, and work choice is even now taking place. We must remember these firm bases as we proceed. Yet proceed we must if we are to bring into being the computer-based system for vocational decisions which I and several colleagues have in mind.

b. Epistemology. The study of the structure of knowledge itself will be needed in making personal differentiation through education, leisure, and work choices more rational. Bruner has already contributed to solutions of this nature. The nosologies of curricular and goals which have proposed will also be most helpful. Ann Martin at the University of Pittsburgh works in this area as she reaches for functional levels within which to characterize man's skills, These functional levels will remove our capacity to reason with possibilities more from the realm of action and place than capacity more in the realm of subjects and concepts. Such a movement is needed to facilitate personal choice, not determination, in occupational competence.

c. Study/Work/Leisure Arrangement. How does one organize for support of personal differentiation in education, leisure, and work choosing? How do the industrial arts and vocational education fit into vocational choosing and development as these contribute to personal differentiation? What about work-study programs? What about the Armed Forces? These are some of the problems which have interested William Schill at the University of Illinois. I presume that these problems will also become central in the work of Robert Campbell at Ohio State University.

d. Timing. How should study, work, and leisure be arranged? What? When? How often for each?

e. Awareness. Inherent in personal differentiation through education, leisure, and work choosing is the experiencing of change itself. This realization immediately raises issues of intrinsic motivation for change. It also reminds us of Murphy's reference to the concept of "progressive mastery." How can we use "progressive mastery" to bring about intrinsic motivation for change? According to Levenstein, Michael, and Wilensky such is the truly crucial problem of our decade.

Influence of the Curriculum on Career Development. I mentioned at the outset that the structure of the Conference largely caused us to consider the influence of career development theory on the curriculum, not the reverse. As I proceeded I have said that the curriculum will itself influence career. In short, there is an interactive effect between career and curriculum. Therefore, curriculum must eventually become a prime term in the theory of career development. At the present time, curriculum is crystallized in the theory of career development at the level of points of decision for education and work. This is why I had to take so much time to indicate the way I will try to invade lower reaches of the curriculum-career relationship by actually going into concepts and processes which I presently consider essential for the cultivation of the differentiated self awareness which I favor. One of the members of the Conference accurately pointed out that the cultivation of personal differentiation through education, leisure, and work choosing incorporates vocational education into the liberating framework of education. Therefore, we should more adequately examine the effects of work on personal differentiation than we now do. We assume that work is mind-limiting, not mind-expanding. I have always found work to be mind-expanding. (I do have to exert care to make work other than life encompassing but I see nothing restraining about work.) Why don't we research this matter further?

Organization for Self Awareness in Career Development Facilitated by Education. My remarks in the prior two sections were restrained by my own assumptions concerning positions, roles, goal, curriculum and processes probably involved in personal differentiation through education, leisure, and work choosing. These assumptions can themselves be brought into the realm of fluid or even static inquiry. As we do so, a new set of reaearch issues will emerge as follows:

a. Responsibilities. Where are the several loci for change in personal differentiation which can be arranged in the social system consisting of student, parents, teacher, principal, counselor, industries, and associations (e.g. the National Vocational Guidance Association, the Association for Supervision and Curriculum Development, the American Vocational Association)?

b. Attitudes. What are the effects of attitudes of incumbents in the several positions of the above social network? Specifically, what is the effect of teacher attitude toward the non-college bound?

c. Programs. For instance, what is an adequate length of apprenticeship in a number of occupational areas? Who ought to control this apprenticeship length?

d. Time Lag. In conclusion, I note a final question in the Conference which can be posed both as a research issue and as the dilemma in the minds of each of us upon adjournment. How can we reduce the time lag between generation of a good idea like that of career development theory and its implimentation through the curriculum? Woods and McDaniels suggest that many of us at the Conference want to do just this. Foshay and Roberts give us several ideas about how we can do so. I have tried to suggest both a plan for implementation of our intentions and a plan for research on that implementation. Let's all start cutting to ribbons the time lag between career development theory and its appearccce in the curriculum of our educational organization.

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SUMMARY OF THE DISCUSSION

SESSION SUMMARY STATEMENTS

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Any attempt by a person to summarize a discussion without having heard the discussion has a low probability of success, and this was the task of the writer in preparing this statement. Fortunately for me, the chairman of the conference had assigned the task of Recorder for each of the six discussion groups to a very competent person. The summary statements, prepared by the Recorders, of the discussions in their respective groups were complete and coherent and I hope reliable. Any limitations of this summary are not the fault of the Recorders but of my inability to accurately interpret and communicate the content of the discussion group summaries.

I have attempted first in this summary to list, and in some cases briefly discuss, the issues raised in the groups as reported by the recorders. Then I have listed some of the suggestions offered in the groups for implementation of career development theory in the curriculum, and the final list is of some research questions raised by the group discussions.

Issues

1. How much is known about career development?

This was a basic question raised in each of the groups, and the discussion revealed that there was a difference of opinion. In some groups there was enough confidence expressed in the validity of certain career development theories to suggest that they can serve as a useful basis for curriculum planning. Opinions expressed in other groups were quite negative. The basis of the negative opinions was the general inability of research to substantiate the hypotheses generated from the theories. One person made what seems to me to be an important point in this regard. The point was that research on career development has not resolved the criterion problem of specifying the behaviors in operational terms of the sequences of career development, and until this problem has a reasonably adequate resolution the adequacy of the research and the theories will be suspect.

2. What is the place of occupational or career content in the curriculum?

This question apparently occupied the majority of the time in the discussion groups. One group indicated the divension of the problem as being what to teach, to whom, by whom, and when.

There seemed to be a consensus that occupational material has a place in the curriculum from K-12, and apparently a fair amount of occupational material is now in the curriculum. One problem raised often, evidently by the curriculum resource people, was the difficulty of introducing more material into an overcrowded curriculum. Many persons expressed a concern that teachers do not have the knowledge or understanding of the world of work or of career development theory to provide meaningful teaching of this content.

A number of individuals raised the question of readiness for occupational content by students. If career development is a process then readiness levels should be identifiable and the content should be geared to these levels. A related point was raised that this would also imply that we need to provide "remedial" experience for individuals who are not at the expected readiness level.

The question of the efficacy of "career guidance," "occupational information", "career day", etc. activities was often raised. The majority seemed to feel these were of limited value, but there was a substancial minority who expressed a belief that this kind of curricular provision has been used successfully.

Considerable discussion was centered on how curriculums change and the problem of staff continuity in relation to curriculum continuity.

3. Is vocational guidance necessary or desirable as an isolated activity?

This question is related to the one above, but I chose to list is separately rather than incorporate it into the previous discussion.

Two points were raised in relation to this question. The first point made was that the world of work is in such a state of change that it is impossible to provide adequate occupational information. Instead of including occupational content the curriculum should include experiences and materials designed to help the individual recognize his sources of self-satisfaction and how work and leisure can provide these experiences. The curriculum should also include experiences that increase the student's ability to make decisions and adjust to change.

The second point was raised by some counselors who suggested that it was undesirable to isolate vocational guidance as a sepatate activity. They indicated a belief that the school should be concerned with helping each student develop an adequate self-concept and the adequacy of his vocational self-concept is dependent on his total self-concept.

My impression of their reported remarks is that they are not anti-vocational guidance. Rather they seemed to be saying that vocational guidance activities can not be done in isolation from other guidance activities. With respect to the curriculum they seemed to question whether the child whose self-concept is developed by what are primarily symbolic or cognitive experiences in school can relate very meaningfully to the occupational information presented if it entails other than cognitive abilities.

4. What values can and should be taught in the schools?

The school as a perpetrator of middle class values was discussed in most of the groups as well as work and leisure values. One person suggested that we should stop dichotomaizing work and leisure values and concentrate on the values of the individual and how he can achieve saitsfaction.

Some discussion was centered on approaches to teaching the dignity of work and that all jobs provide satisfaction. The question was raised by some, however, whether it is realistic that the job, per se, is always a source of satisfaction. Perhaps I am revealing my middle class values, but I must confess that the attempt to dignify garbage collecting or sugar beet hoeing seems to be too much of a Pollyanna kind of thing.

5. How can we increase communication among the groups interested in this problem?

It was suggested in all of the groups that the conference was a useful start toward developing a dialogue among counselors, curriculum personnel, vocational educators, and industry. There was an indication that school administrators should be brought into the dialogue.

6. What are the respective roles of the counselor and the teacher in vocational guidance?

Considerable expression was given to the point that counselors and teachers are not very aware of what the other is doing. Super suggested that the counselor work very closely with teachers in the area of vocational guidance, but that ultimate responsibility lay with the counselor. He used the term "orchestration" to describe how the counselor ought to work with the teacher.

Other questions raised but with little discussion were the following:

7. How can adequate, accurate, up-to-date occupational information be provided?

8. What are the occupational role models for children?

9. How do we resolve the problem of the future orientation of education and guidance versus the now orientation of the students?

Curricular Ideas

The following list is of suggested techniques, procedures, or plans for providing for more effective career guidance. Some have been alluded to in the discussion of issues, not all are new or innovative.

1. Design miniaturized occupational experience sequences.
2. Expand on work experience programs. The problem of child-labor laws was raised in this connection.
3. Provide for more exchange of personal between industry and education.
4. Provide realistic problem solving or decision making experiences.
5. Use sub-professionals in working with parents in providing experiences related to work in the home.
6. Provide occupational information and instruction in career development theory to teachers both in pre-service and in-service classes.
7. Establish formal career guidance classes at the secondary level.
8. Make up package units on occupations for teachers. Munson's SRA monograph series might be an example of such units.
9. Suggested content of career material.
    a. Ethical implications of work.
    b. Occupational change and mobility.
    c. Range of activities in related occupations.
    d. Definitions of work.
    e. Perceptions of occupations.
    f. Interdependence and relationship of workers.
10. Use field trips.
11. Provide career resource persons in the schools. This could be a function of a counselor well-trained in careers.

12. The Richmond Plan and Greater Cleveland Plan.

13. Hold conferences and workshops at the state level to work on the problem.

Suggested research

Many research questions were raised. The following seemed to be raised most often but the list is certainly not exhaustive.

1. Career development theory needs much more research. Why are the hypotheses so often not supported by the data? Are the theories inadequate? Are the measures unreliable? Are the samples poorly drawn?

2. Can levels of readiness for occupational information be established?

3. What are the career patterns of women?

4. Is vocational education performing its function as efficiently as it might? Do vocational courses need the large blocks of time they now have?

5. Is future oriented material not meaningful for young people? Are they primarily now oriented?

6. What are possible sources of satisfaction in various jobs?

7. What is now being done in the curriculum to teach occupational material?

Obviously the discussion groups did not resolve the question of how to implement career development theory and research in the curriculum, but the groups were successful if one applies the criterion that more and better questions were raised as a result of the session than we were able to raise before the session.